

Presented by
Miss Elizabeth Marbury
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I N D E X I.

In which the Plants contained in the second Fasciculus, are arranged according to
the System of LINNÆUS.

Latin Name.	Class and Order.
1 Veronica hedærifolia	DIANDRIA Monogynia.
2 Veronica arvensis	
3 Veronica Becabunga	
4 Poa rigida	TRIANDRIA Monogynia.
5 Poa pratensis	
6 Poa trivialis	
7 Alopecurus myosuroides	TETRANDRIA Monogynia.
8 Bromus hirsutus	
9 Galium Aparine	
10 Plantago lanceolata	TETRANDRIA Tetragynia.
11 Plantago major	
12 Sagina erecta	PENTANDRIA Monogynia.
13 Convolvulus arvensis	
14 Solanum nigrum	PENTANDRIA Digynia.
15 Chenopodium album	
16 Chenopodium viride	HEXANDRIA Monogynia.
17 Chenopodium polyspermum	
18 Hyacinthus non scriptus	HEXANDRIA Trigynia.
19 Juncus campestris	
20 Rumex crispus	OCTANDRIA Monogynia.
21 Epilobium hirsutum	
22 Epilobium villosum	
23 Epilobium tetragonum	OCTANDRIA Tetragynia.
24 Epilobium angustifolium	
25 Erica cinerea	DECANDRIA Digynia.
26 Adoxa Moschatellina	
27 Chrysosplenium oppositifolium	DECANDRIA Trigynia.
28 Saxifraga trydactylites	
29 Saponaria officinalis	ENNEANDRIA Pentagynia.
30 Stellaria Holostea	
31 Oxalis Acetosella	
32 Lychnis dioica	ICOSANDRIA Polygynia.
33 Ceraftium femidecandrum	
34 Ceraftium vulgatum	
35 Ceraftium viscosum	POLYANDRIA Polygynia.
36 Geum urbanum	
37 Adonis autumnalis	
38 Anemone nemorosa	DIDYNAMIA Gymnospermia.
39 Ranunculus Ficaria	
40 Ranunculus hirsutus	
41 Ranunculus auricomus	TETRADYNAMIA Siliquosa.
42 Ranunculus sceleratus	
43 Ajuga reptans	
44 Glechoma hederacea	MONADELPHIA Decandria.
45 Lamium album	
46 Lamium amplexicaule	
47 Thymus Serpyllum	MONADELPHIA Polyandria.
48 Erysimum Alliaria	
49 Arabis thaliana	
50 Geranium molle	DIADELPHIA Hexandria.
51 Malva sylvestris	
52 Fumaria officinalis	
53 Trifolium ornithopodioides	DIADELPHIA Decandria.
54 Trifolium subterraneum	
55 Trifolium fragiferum	
56 Lotus corniculatus	SYNGENESIA Polygamia Æqualis.
57 Medicago lupulina	
58 Sonchus oleraceus	
59 Tussilago Petasites	SYNGENESIA Polygamia Superflua.
60 Tussilago Farfara	
61 Viola canina	
62 Orchis mascula	SYNGENESIA Monogamia.
63 Arum maculatum	
64 Poterium Sanguisorba	
65 Mercurialis perennis	GYNANDRIA Diandria.
66 Atriplex hastata	
67 Osmunda Spicant	
68 Polytrichum subrotundum	GYNANDRIA Polyandria.
69 Hypnum fericeum	
70 Bryum truncatulum	
71 Bryum viridulum	MONOECIA Polyandria.
72 Agaricus ovatus	
73 Agaricus fimetarius	

I N D E X II.

In which the Latin Names of the Plants
are arranged Alphabetically.

	Plate.
Arum maculatum	63
Atriplex hastata	66
Adonis autumnalis	37
Adoxa Moschatellina	26
Arabis thaliana	49
Anemone nemorosa	38
Ajuga reptans	43
Agaricus fimetarius	73
Agaricus ovatus	72
Alopecurus myosuroides	7
Bryum truncatum	70
Bryum viridulum	71
Bromus hirsutus	8
Chenopodium viride	16
Chenopodium album	15
Chenopodium polyspermum	17
Cerastium viscosum	35
Cerastium semidecandrum	33
Cerastium vulgatum	34
Convolvulus arvensis	13
Chrysosplenium oppositifolium	27
Epilobium villosum	22
Epilobium hirsutum	21
Epilobium angustifolium	24
Epilobium tetragonum	23
Erysimum Alliaria	48
Erica cinerea	25
Fumaria officinalis	52
Geum urbanum	36
Geranium molle	50
Glechoma hederacea	44
Galium Aparine	9
Hypnum sericeum	69
Hyacinthus non scriptus	18
Juncus campestris	19
Lamium amplexicaule	46
Lamium album	45
Lychnis dioica	32
Lotus corniculatus	56
Medicago lupulina	57
Mercurialis perennis	65
Malva sylvestris	51
Oxalis Acetosella	31
Orchis mascula	62
Osmunda Spicant	67
Poa rigida	4
Poa pratensis	5
Poa trivialis	6
Plantago major	11
Plantago lanceolata	10
Polytrichum subrotundum	68
Poterium Sanguifera	64
Ranunculus Ficaria	39
Ranunculus hirsutus	40
Ranunculus auricomus	41
Ranunculus sceleratus	42
Rumex crispus	20
Sonchus oleraceus	58
Saxifraga tridactylites	28
Sagina erecta	12
Stellaria Holostea	30
Solanum nigrum	14
Saponaria officinalis	29
Trifolium ornithopodioides	53
Trifolium subterraneum	54
Trifolium fragiferum	55
Tussilago Petasites	59
Tussilago Farfara	60
Thymus Serpyllum	47
Veronica hederifolia	1
Veronica arvensis	2
Veronica Becabunga	3
Viola canina	61

I N D E X III.

In which the English Names of the
Plants are arranged Alphabetically.

	Plate
Anemone Wood	38
Allseed	17
Avens common	36
Birds-foot-Trefoil common	56
Bryum brown	70
Bryum green	71
Butter bur	59
Bugle common	43
Brook-lime	3
Burnet	64
Brome-grass hairy stalk'd	8
Cuckow-pint	63
Convolvulus field	13
Cranes-bill doves-foot common	50
Coltsfoot	60
Campion red	32
Crowfoot pale-leaved	40
Crowfoot wood	41
Crowfoot celery-leaved	42
Cleavers common	9
Dead-nettle white	45
Dock curled	20
Fumitory common	52
Foxtail-grass field	7
Golden-Saxifrage common	27
Ground-ivy	44
Goosefoot white	15
Goosefoot purple-jointed	16
Henbit	46
Hypnum silky	69
Hyacinth english	18
Heath fine-leaved	25
Medick hop	57
Moufear Chickweed least	33
Moufear-Chickweed common	34
Moufear-Chickweed broad-leaved	35
Moschatel tuberous	26
Meadow-grass hard	4
Meadow-grass smooth-stalk'd	5
Meadow-grass rough-stalk'd	6
Mercury dogs	65
Mallow common	51
Mushroom egg	73
Mushroom puckered	72
Nightshade garden	14
Orach spear-leaved	66
Orchis early spotted	62
Pearlwort upright	12
Pheasants-eye	37
Podded-moufear	49
Pilewort	39
Plantain narrow-leaved	10
Plantain common	11
Polytrichum dwarf	68
Rush hairy field	19
Speedwell ivy-leaved	1
Speedwell wall	2
Sowthistle common	58
Saxifrage rue-leaved	28
Spleenwort rough	67
Sauce-alone	48
Stichwort greater	30
Sopewort	29
Trefoil subterraneous	54
Trefoil birds-foot true	53
Trefoil strawberry	55
Thyme wild	47
Violet dogs	61
Wood-Sorrel	31
Willow-herb large-flowered	21
Willow-herb hoary	22
Willow-herb square-stalk'd	23
Willow-herb rosebay	24



Veronica pedersolia

Linnaeus & Link.



VERONICA ARVENSIS. WALL SPEEDWELL.

VERONICA *Linnaei Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. limbo 4-partito, laciniâ infimâ angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *arvensis* floribus solitariis, foliis cordatis incisis pedunculo longioribus. *Lin. Syst. Vegetab.* p. 57. *Sp. Pl.* p. 18.

VERONICA caule erecto, foliis ovatis, subhirsutis, dentatis; petiolis brevissimis. *Haller. hist. helv. n.* 548.

VERONICA *arvensis.* *Scopoli. Flor. Carniol.* p. 18.

ALSINE veronicæ foliis, flosculis cauliculis adhærentibus. *Baubin. Pin.* 250.

ALSINE foliis Veronicæ. *Gerard. emac.* 613.

ALSINE foliis subrotundis Veronicæ. *Parkinson.* 762.

VERONICA flosculis singularibus cauliculis adhærentibus. *Raii Syn.* p. 279, Speedwell Chickweed.

Oeder Fl. Dan. t. 515.

Hudson Fl. Angl. 6. ed. 2. 6.

Lightfoot. Fl. Scot. p. 75.

RADIX annua, fibrosa.

CAULIS palmaris, aut dodrantalis, erectus, plerumque ramosus, subinde simplex, (rami alternatim oppositi, ascendentes,) teres, purpurascens, undique hirsutus.

FOLIA inferiora petiolata, hirsuta, subcordata, inferne sæpe purpurea, obtusa, planiuscula, incisa, quinquenervia, superiora sessilia, subrotunda.

FLORES pedunculis brevissimis insidentes, spicati, bractæa lanceolata suffulti.

CALYX: PERIANTHIUM quadripartitum, laciniis ovato-lanceolatis, hirsutulis, hirsutie glandulosa, duobus inferioribus duplo fere majoribus et longioribus, *fig.* 1.

COROLLA monopetala, subrotata, cœrulea, levissimo tactu decidua, tubus brevissimus, albus, limbus quadripartitus, laciniis ovatis, infimâ angustiore, *fig.* 2.

STAMINA: FILAMENTA duo, alba, medio crassiora, corollâ dimidio breviora: ANTHERÆ subcordatæ, flavescentes, *fig.* 3.

PISTILLUM: GERMEN obcordatum, compressum, viscosum, basi glandulâ cincto: STYLUS brevissimus, albus, rectus: STIGMA crassum subtruncatum, *fig.* 4.

PERICARPIUM: CAPSULA obcordata, compressa, pallide fusca, *fig.* 5, continens.

SEMINA circiter 14 ovata, compressa, medio depresso, *fig.* 6, 7.

AS the *Veronica agrestis* grows chiefly in gardens and cultivated ground, so this species, which is nearly allied to it, is most commonly found on walls, also in fallow fields, and on the borders of dry pastures.

It flowers in April, and the seeds ripen in May.

The old botanists, inattentive to the parts of fructification, distinguished this and some other species of Veronica, by the general name of *Alsine*.

Students are apt, as we have before observed, to confound it with the *agrestis*, from which it differs in many respects: the stalk in particular is upright; the flowers are nearly sessile; the seed-vessels are much smaller, and when ripe form a spike.

It varies in size from one to six or eight inches: and on walls, the bottom leaves are frequently observed to be purple.

ROOT annual and fibrous.

STALK upright, from three to nine inches in height, generally branched, now and then simple, (the branches alternately opposite and ascending,) round, purplish, and hirsute on every side.

LEAVES on the bottom of the stalk standing on foot-stalks, hirsute, somewhat heart-shaped, often purple on the under side, obtuse, flattish, notched on the edges, having five ribs, the upper ones sessile, and somewhat twisted.

FLOWERS fitting on very short foot-stalks, growing in a spike, supported by a lanceolate floral-leaf

CALYX: a PERIANTHIUM deeply divided into four segments, which are oval, lanceolate, and hairy; (the hairs terminated with glands;) the two lowermost almost twice as large and long as the others, *fig.* 1.

COROLLA monopetalous, and somewhat wheel-shaped, of a blue colour, falling off on the least touch; the tube very short and white; the limb deeply divided into four segments, which are oval, the lower one narrowest, *fig.* 2.

STAMINA: two white FILAMENTS thickest in the middle, half the length of the corolla: ANTHERÆ somewhat heart-shaped, and yellowish, *fig.* 3.

PISTILLUM: GERMEN inversely heart-shaped, flattened, and viscous, surrounded at bottom by a gland: STYLE very short, white, and strait; STIGMA thick, with an appearance of being cut off, *fig.* 4.

SEED-VESSEL a heart-shaped flattened CAPSULE, of a pale brown colour, *fig.* 8, containing of

SEEDS about fourteen, which are oval and flat, with a depression in the middle, *fig.* 6, 7.

N°133



Veronica arvensis

VERONICA BECABUNGA. BROOKLIME.

VERONICA *Linnaei* Gen. Pl. DIANDRIA MONOGYNIA.

Cor. limbo 5-partito, lacinia infima angustiore.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

VERONICA *Becabunga* racemis lateralibus, foliis ovatis planis, caule repente. *Linn. Syst. Vegetab.* p. 57.

VERONICA foliis ovatis, ferratis, glabris, ex alis racemosa. *Haller hist. n.* 534.

VERONICA *Becabunga*. *Scopoli Fl. Carniol. n.* 11.

ANAGALLIS aquatica minor folio subrotundo. *Bauhin pin.* 252.

ANAGALLIS aquatica vulgaris, five Becabunga. *Parkinson* 1236.

ANAGALLIS five Becabunga. *Gerard emac.* 620.

VERONICA aquatica rotundifolia, Becabunga dicta minor. *Raii Syn.* 280, Common Brooklime.

Hudson Fl. Angl. p. 4. *Oeder Fl. Dan. Icon.* 511.

RADIX perennis, fibrosa, fibris plurimis, capillaribus, albis.	ROOT perennial, fibrous, the fibres numerous, very small and white.
CAULES numerosi, repentes, teretes, laeves, crassi, succulenti, rubentes, ramosi.	STALKS numerous, creeping, round, smooth, thick, succulent, of a reddish colour, and branched.
FOLIA ovato-obtusâ, utrinque glabra, subcarnosa, opposita, dentata, denticulis glandulâ terminatis.	LEAVES oval and obtuse, smooth on both sides, somewhat fleshy, opposite, indented at the edges, each little tooth terminated by a gland.
FLORES pulchre cœrulei, ocello albo, racematim dispositi, racemis ex utraque alâ prodeuntibus.	FLOWERS of a beautiful blue colour, with a white eye, growing in racemi or branches which proceed from the bosoms of the leaves on each side of the stalk.
CALYX: PERIANTHIUM quadripartitum, laciniis ovato-acutis, laevibus, corolla brevioribus, fig. 2.	CALYX: a PERIANTHIUM divided into four segments, which are of an oval pointed shape, smooth, and shorter than the corolla, fig. 2.
COROLLA monopetala, subrotata, cœrulea, venis faturationibus ad basin striatis, laciniis subovatis, infima angustiore, fig. 3.	COROLLA monopetalous, somewhat wheel-shaped, of a blue colour, striped at bottom with deeper veins of the same colour; the segments nearly oval; the lowermost narrower than the others, fig. 3.
STAMINA: FILAMENTA duo, alba, medio crassiora: ANTHERÆ cœrulefcentes: POLLEN album, fig. 4.	STAMINA: two white FILAMENTS, thickest in the middle: ANTHERÆ blueish: the POLLEN white, fig. 4.
PISTILLUM: GERMEN subrotundum, didymum: STYLUS apice incrassatus, purpureus: STIGMA capitatum, fig. 5.	PISTILLUM: GERMEN roundish, double: STYLE thickest at top and purple: STIGMA forming a little head, fig. 5.
PERICARPIUM: CAPSULA subrotunda, compressa, bilocularis, quadrivalvis, fig. 6.	SEED-VESEL: a roundish, flattened CAPSULE of two cavities and four valves, fig. 6.
SEMINA plurima, ovata, fusca, fig. 7, 8.	SEEDS several, oval and brown, fig. 7, 8.

BROOKLIME grows very commonly in brooks and muddy waters, whence its name, and flowers in June and July. It is an officinal plant, and made use of in the scorbutic juices of the London Dispensatory, which seems to be the only purpose to which it is applied.

Veronica Beccabunga



POA RIGIDA. HARD MEADOW-GRASS.

POA *Linnaei* Gen. Pl. TRIANDRIA DIGYNIA.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *rigida* panicula lanceolata subramosa secunda: ramulis alternis secundis. *Lin. Syst. Vegetab.* p. 98.

GRAMEN panicula multiplici. *Baubin. Pin.* p. 3.

GRAMEN exile duriusculum in muris et aridis proveniens. *Raii Syn.* 410, Small Hard Grass.

GRAMEN loliaceum murorum duriusculum spica erecta rigida. *Hist. Oxon. III.* 182. t. 2. fig. 9.

GRAMEN minus duriusculum. *Gerard.*

GRAMEN arvense, filicinâ, duriore panicula, gracilius. *Barrel. Ic.* 49.

Scheuchz. Agrofl. ed Haller. p. 271. t. 6. fig. 2. 3. spiculæ tantum.

Hudson Fl. Angl. p. 35. ed. 2. p. 42.

RADIX annua, paucis fibrillis instructa.

CULMI plures, palmares, erecti, ad basin infraeti, plerumque simplices, læves, binodes.

FOLIA lanceolata, lævia, longitudine vaginæ, suberecta; *Membrana* brevis, obtusa, apice lacera; *Vagina* lævis, lineata.

PANICULA lanceolata, sesquiuncialis, paululum recurvata, rigida, subsecunda.

SPICULÆ lineari-lanceolatae, suboctofloræ, acutæ, subcompressæ, fig. 1.

CALYX: GLUMA bivalvis, valvulæ longitudine et magnitudine inæquales, ad lentem scabriusculæ, fig. 2.

COROLLA: GLUMA bivalvis, valvulæ subæquales, ovato-acutæ, marginibus membranaceis, fig. 3.

STAMINA: FILAMENTA tria, capillaria, longitudine Corollæ: ANTHERÆ flavæ, minimæ, breves, utrinque furcatæ, fig. 4, 5.

NECTARIA: GLUMULÆ duæ, ovato-acutæ, longitudine Germinis, ope microscopii visibiles, fig. 6.

PISTILLUM: GERMEN turbinatum: STYLI duo ad basin usque ramosi, fig. 7, 8.

SEMINA ovato-acuta, hinc convexa, inde concava.

ROOT annual, and furnished with few fibres.

STALKS several, about four inches high, upright, crooked at bottom, generally simple, smooth, with two knots or joints.

LEAVES lanceolate, smooth, the length of the sheath, and nearly upright; *Membrane* at the base of the leaf short, obtuse, and jagged at top; *Sheath* smooth, and very finely grooved.

PANICLE lanceolate, about an inch and a half long, bent a little back, rigid, the spiculæ in some degree growing one way.

SPICULÆ of a shape betwixt linear and lanceolate, containing for the most part eight flowers, pointed and flattish fig. 1.

CALYX: a GLUME of two valves, the valves unequal in length and size, appearing roughish when viewed with a magnifier, fig. 2.

COROLLA: a GLUME of two valves, the valves nearly equal, of an oval pointed shape, the edges membranous, fig. 3.

STAMINA: three FILAMENTS, fine, the length of the Corollæ; ANTHERÆ yellow, very minute, short, and forked at each end, fig. 4, 5.

NECTARIES: two small GLUMES of an oval pointed shape, the length of the Germen, visible by the help of a microscope, fig. 6.

PISTILLUM: GERMEN larger at top than at bottom: STYLES two, branched down to the bottom, fig. 7, 8.

SEEDS of an oval pointed shape, convex on one side, and hollow on the other.

Neither HALLER nor SCOPOLI make any mention of this grass. According to SCHEUCHZER, it is common in *Italy* and *France*, in dry fields, and sometimes on walls: with us it is found more frequently on the latter; and though not so common as some of the grasses, yet it is to be found on most of the walls about London, in May and June.

In very dry and barren situations, the stalks sometimes are found simple, the panicle also not branched, and the spiculæ, instead of containing about eight flowers, which is the usual number, have no more than three or four: in this state SCHEUCHZER makes another species of it: this alteration, from an excess or scantiness of nourishment, is what all plants are subject to; and no circumstance seems to have been less regarded by Botanists—To form species or varieties from such a cause, is to multiply plants without end. A complete knowledge of a plant, is only to be attained by observing it at the different periods of its growth, in all the various situations in which it occurs—Information obtained from any other source is not to be depended on.



Poa rigida



Poa pratensis

POA PRATENSIS. SMOOTH STALK'D MEADOW GRASS.

POA *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA:

Cal. 2-valvis, multiflorus. *Spiculæ* ovatæ; valvulis margine scariosis, acutiusculis.

Rai Syn. Gen. 27. HERBÆ GRAMINIPOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *pratensis* panicula diffusa, spiculis subquinquefloris, culmo erecto lævi, membrana foliorum obtuso.

POA *pratensis* panicula diffusa, spiculis quinquefloris glabris, culmo erecto tereti. *Linnaei Syst. Vegetab.* p. 97.

Fl. Suecic. 82.

POA *pratensis.* *Scopoli Fl. Carniol.* p. 70. n. 100. *Diagn.* Panicula diffusa spiculæ 2-3 floræ. Glumis inæqualibus, lanugine nulla.

POA panicula diffusa locustis trifloris glabris. *Haller hist. n.* 1465. secundum *Scopoli.*

GRAMEN pratense paniculatum medium. *Raii Syn.* 409, The greater or middle sort of Meadow Grass.

Baubin Pin. 2. pratense minus. *Gerard* 2. *Parkinson* 1156.

RADIX perennis, *repens*, intra terram fissurasque murorum facile penetrans.

CULMI plerumque pedales, erecti, *læves*, vix manifeste striati.

FOLIA lævia, saturate viridia, subinde glauca, membrana *brevi obtusa* instructa, *fig.* 11.

PANICULA erecta, diffusa.

SPICULÆ ovato-acutæ, plerumque quinquefloræ, etiam bifloræ, utrinque compressæ, *fig.* 1, 2.

CALYX: GLUMA bivalvis, valvulis inæqualibus, acuminatis, concavis, *fig.* 3.

COROLLA: GLUMA bivalvis, valvulæ subæquales, altera concava, carinâ ad lentem visâ scabriuscula, altera planiuscula, *fig.* 4; in fundo calycis lanugo observanda, *evulsis flosculis*, *fig.* 3, 5.

STAMINA: FILAMENTA tria, capillaria, glumis longiora: ANTHERÆ utrinque bifurcæ, *fig.* 6.

PISTILLUM: GERMEN ovatum: STYLI duo, ad basin usque ramosi, *fig.* 7.

NECTARIUM: GLUMULÆ duæ ad basin germinis, *fig.* 8, auct.

SEMEN angulosum, acuminatum, basi lanugine instructo, *fig.* 9. nat. mag. *fig.* 10, auct.

ROOT perennial and *creeping*, easily penetrating into the earth and crevices of walls.

STALKS generally about a foot high, upright, *smooth*, scarce perceptibly striated.

LEAVES smooth, of a deep green colour, sometimes blueish, furnished with a *short blunt* membrane, *fig.* 11.

PANICLE upright and spreading.

SPICULÆ oval-pointed, generally with five flowers, sometimes only two, flattened on each side, *fig.* 2.

CALYX a GLUME of two valves, unequal, acuminated and hollow, *fig.* 3.

COROLLA a GLUME of two valves, the valves nearly equal; the one concave, with the keel appearing somewhat rough if magnified; the other flattish, *fig.* 4: in the bottom of the calyx a filamentose or wooly substance is apparent when the flowers are drawn out of it, *fig.* 3, 5.

STAMINA: three FILAMENTS, thread-like, longer than the glumes: ANTHERÆ forked at each end, *fig.* 6.

PISTILLUM: GERMEN oval: STYLES two, branched down to the bottom, *fig.* 7.

NECTARY: two little GLUMES at the base of the germen, *fig.* 8, magnified.

SEED angular and pointed, at bottom wooly, of its natural size, *fig.* 9; magnified, *fig.* 10.

THE *Poa pratensis* and *Poa trivialis* approach very near each other in their general appearance, so much so, indeed, that the botanist who is intimately acquainted with them, cannot, if he sees them grow together, discriminate them at a little distance; and the characters from which modern botanists have drawn their specific differences, have been so vague and indeterminate, that the student is never able to satisfy himself whether he has found the one or the other; yet there are not two grasses which afford more obvious or satisfactory marks of distinction. The difficulty which I have experienced myself in the investigation of these two plants, has made me exceedingly attentive to them; and what I relate is the result of repeated observations, joined to a careful culture of them.

These

These grasses differ chiefly in the following particulars: the *pratensis* is in every part perfectly smooth; while in the *trivialis* the stalk, leaves, sheaths of the leaves, and branches of the panicle, all feel rough if the plant be drawn downward betwixt the thumb and finger: exclusive of this difference, which is a very good one for a common observer, in the *trivialis* the sheath of the leaf is flatter and more deeply fluted: nor do the roots of these two plants differ less; the *trivialis* being simply fibrous; the *pratensis* creeping, and sending out many white shoots: but what distinguishes them most fully and most infallibly, is the difference in the membrane at the bottom of the leaf, where the sheath begins; this in the *pratensis* is very short and blunt; in the *trivialis* it is long and pointed: and the beauty of this distinction is, that it is obvious to the most common observer; nor did I ever know it fail me, let the grass vary ever so much in size and other particulars. They differ also with respect to the size of the spiculæ and the number of flowers contained in each: in the *trivialis* they are either biflorous or triflorous; in the *pratensis* they are most commonly *quinqueflorous*. Such are the most obvious distinctions in the grasses themselves: other circumstances contribute to render them still more so. The *pratensis* grows generally on walls; indeed there is not a wall in any of the villages around town on which it may not be found in abundance: it very frequently occurs on dry banks, and oftentimes in meadows. The *trivialis* is scarce ever found on walls, seldom on dry banks; but most frequently in moist meadows, or the sides of ditches; so that the one grass seems to delight in a dry, the other in a moist situation. They differ somewhat also in the time of their flowering; the *pratensis* flowering about the third week in May, the *trivialis* the first week in June: and there is this remarkable with respect to the flowering of the *pratensis*, that after it has flowered in the Spring, it shews no disposition to flower during the Summer; while the *trivialis* is found in bloom, though not generally, during the whole of the Summer. Added to this, there is a firmness in the stalk of the *pratensis* not perceivable in the *trivialis*. By an attention to these remarks, I trust the young botanist will acquire a clear idea of them, without having recourse to the pubescence, &c. which, though laid so much stress on by LINNÆUS and SCOPOLI, is by no means adequate to the distinguishing of them. Indeed it is difficult to know rightly what they mean by *spiculis basi pubescentibus*, as no pubescence is perceivable in them outwardly: but if one attempts to draw the floscules out of the glumes of the calyx, we perceive a filamentose appearance, which seems to connect the florets and calyx together: but this appearance, which is indeed a very striking and singular one, and which I have not yet observed in any other grasses, takes place nearly in an equal degree in both: this substance adheres to the seed when separated, and causes them to hang to one another as if there were cobwebs among them; so that a person ignorant of the cause, from an examination of such seed, might conclude it old and good for nothing: this appearance is most striking in the *trivialis*. RAY, whose descriptions always accord with nature, and are taken from the most obvious characters of the plant, mentions the roughness, (*Culmi nonnihil asperi*;) but the particular shape of the membrane has not, that I know of, been noticed till now.

The *Poa pratensis* may be considered as a valuable grass, and one of those which ought to enter into the composition of a good meadow or pasture: I say composition, because I imagine every good meadow should be compounded of a variety of grasses, each having peculiar and valuable properties. We are not to expect all that can be wished in a meadow in one grass; some are calculated to produce food, and carry a beautiful verdure even in the depth of winter: some bring forth early shoots, and make choice food for cattle in the spring: some produce a large quantity of sweet tender leaves at bottom; others by the weight and height of their stalks, and of their heads or panicles at top, encrease the weight of the hay: some shoot strongly and produce a large aftermath: some give a more agreeable smell to the hay. So that to have a good meadow, we should have a variety of grasses; and if we may argue from analogy, a variety of food may also be more grateful to cattle.

The principal advantages of the *Poa pratensis* are, that it is a sweet grass, and eaten readily by cattle in general: it carries its verdure in the winter better than most others, and throws out young and numerous shoots in the spring, so as to make good spring food. It produces a good crop of leaves at bottom, which make exceeding fine hay, and is fit for cutting early in the spring.

There is a glaucous or blueish variety of this grass occurs frequently in meadows: it varies also in the number of its floscules, from three to five, or sometimes more: as likewise in its size: when growing on walls or dry banks, it does not reach half the height which it does in fertile meadows.





Poa trivialis

POA TRIVIALIS. ROUGH-STALK'D MEADOW GRASS.

POA *Linnei Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. *Spicula* ovata : valvulis margine scariofis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *trivialis* panicula diffusa, spiculis subtrifloris, culmo erecto scabro, membranâ foliorum acuminata.

POA *trivialis* panicula diffusa, spiculis trifloris basi pubescentibus, culmo erecto tereti. *Linnei Syst.*

Vegetab. p. 97.

GRAMEN pratense paniculatum medium. *Baubin pin.* 5. *Raii Syn. p.* 409. *n.* 2.

POA *trivialis.* *Scopoli Fl. Carniol. p.* 69. *n.* 39. *Diagn.* Lanugo ad basin petali exterioris.

POA panicula diffusa locustis trifloris villosis. *Haller bist. n.* 1562. secundum Scopoli.

GRAMEN pratense minus. *Parkinson 1156.* *Gerard emac. 2.* *Hudson Fl. Angl. p.* 33.

RADIX fibrosa, capillacea.

CULMUS erectus, pedalis ad bipedalem, basi repens, unde perenne evadit hoc gramen, striatus, scabriusculus, sæpe purpureus.

FOLIA: VAGINA subcompressa, striata, scabriuscula: MEMBRANA ad basin foliorum longa, acuminata, fig. 1; folia ipsa longa, scabriuscula, subtus nitida, tenera.

PANICULA erecta, diffusa.

SPICULÆ parvæ, bifloræ, aut trifloræ, (fig. 2. 2. magn. nat. fig. 3. 3. lente auct.) nonnunquam etiam quadrifloræ, ovato-acuminatæ, subcompressæ.

GLUMÆ calycinæ bivalves, valvulis inæqualibus, acuminatis, carinatis, carinâ scabrâ, fig. 4. Si glumæ corollacæ ex calycinis glumis extrahantur, lanugo (fig. 9.) conspicitur, huic et *Poa pratensis* quousque observavi propria.

GLUMÆ corollacæ bivalves, valvulis subæqualibus, acutis.

STAMINA: FILAMENTA tria capillaria, glumis paulo longiora, fig. 6: ANTHERÆ flavæ aut purpurascens, demum utrinque furcata, fig. 6.

PISTILLUM: GERMEN minimum, ovatum: STYLI duo ad basin fere plumosi, fig. 7.

NECTARIUM: GLUMULÆ duæ teneræ ad basin germenis, fig. 8.

SEMEN oblongo acuminatum, angulosum, basi lanugine instructum, fig. 10.

ROOT fibrous and capillary.

STALK upright, from one to two feet high, creeping at bottom, whence this grass becomes perennial, striated, rough, and often purple.

LEAVES: the SHEATH flattish, striated, roughish; the MEMBRANE at the base of the leaf long, and pointed, fig. 1: the leaves themselves long, somewhat rough, shining underneath, and tender.

PANICLE upright and spreading.

SPICULÆ small, containing two or three flowers, (fig. 2. 2. of their natural size, fig. 3. 3. magnified) and sometimes even four flowers, of an oval pointed shape, and flattish.

GLUMES of the Calyx composed of two valves, which are unequal, pointed, and have the keel, or rib on the back, rough, fig. 4. If the glumes of the corolla are drawn out of the glumes of the calyx, a woolly substance (fig. 9.) is observable, and which, as far as I have hitherto noticed, is peculiar to this Grass and the *Poa pratensis*.

GLUMES of the corolla of two valves, the valves nearly equal and pointed, fig. 3.

STAMINA: three capillary FILAMENTS a little longer than the glumes, fig. 6: ANTHERÆ yellow or purplish, finally becoming forked at each end, fig. 6.

PISTILLUM: GERMEN very small and oval: STYLES two, feathered almost to the bottom, fig. 7.

NECTARY: two little tender GLUMES at the bottom of the germen, fig. 8.

SEED oblong and pointed, angular, and furnished with a woolly substance at bottom, fig. 10.

THE means of distinguishing this Grass from the *Poa pratensis*, (for which it is the most liable to be mistaken) with many other particulars relative to it, we have already given under the latter: considered in an agricultural light, it is certainly one of our best grasses, both for hay and pasturage; indeed a good meadow can scarcely be formed without it. Its chief qualities are, that it produces a large quantity of sweet tender leaves, which are preferred by cattle to most others, and which are convertible into exceeding fine hay. It is an early grass, flowering about the beginning of June. It does not bear the frosts of the Winter so well, nor does it shoot so early in the Spring as the *Poa pratensis*; but when the weather comes to be so warm as to make the grasses in general shoot, this grows faster, and produces a greater crop of bottom leaves, (the most desirable parts of grasses,) than most others.

It grows best in meadows that are tolerably moist: in dry pastures it is often found, but much smaller.

Hints relative to the Culture of the Grasses.

When the advantages resulting to the community from the introduction of *Wheat, Barley, Rye, Clover, Tares, St. Foin, Trefoil, &c.* many of which are natives of our own country, daily occur to us: when neither pains nor expence are spared to improve our arable lands, it seems strange that so little care should be taken of the improvement of our meadows and pastures, which might doubtless be made to produce double or treble the crops they already do, by the judicious introduction of proper grasses.

If

If we examine our meadows, pastures, and downs, we shall find them pretty much in a state of nature, excepting those pastures which of later years have been sown with *Rye Grass* and *Clover*, full of an indiscriminate mixture of plants, some of which afford good, others bad food; some good crops, others scarce any crops at all. That I may not be thought to speak at random on this matter, I shall here mention a few facts to corroborate what I have asserted.

My very worthy and much esteemed friend THOMAS WHITE, Esq; with a view to the ascertaining the produce of several downs and hilly pastures fed on by sheep, procured from each of the undermentioned different downs and commons, in Hampshire and Suffex, a turf which, though not larger than about six inches in diameter, and chosen as pure as any part of the pasturage, produced, on being planted in a garden, the following plants.

Turf from Selborn Common.

- | | | |
|----|------------------------------|---------------------------|
| 1 | <i>Plantago lanceolata.</i> | Narrow-leaved Plantain. |
| 2 | <i>Agrostis capillaris.</i> | Fine paniced Agrostis. |
| 3 | <i>Avena flavescens.</i> | Yellow Oat Grass. |
| 4 | <i>Dactylis glomeratus.</i> | Rough Cocksfoot Grass. |
| 5 | <i>Festuca duriuscula.</i> | Hard Fescue Grass. |
| 6 | <i>Poa annua.</i> | Common dwarf Poa. |
| 7 | <i>Cynofurus cristatus.</i> | Crested Dogs-tail. |
| 8 | <i>Trifolium repens.</i> | Creeping or Dutch Clover. |
| 9 | <i>Crepis tectorum.</i> | Smooth Succory Hawkweed. |
| 10 | <i>Achillea Millefolium.</i> | Yarrow. |
| 11 | <i>Galium verum.</i> | Yellow Ladies Bedstraw. |
| 12 | <i>Hypochaeris radicata.</i> | Long-rooted Hawkweed. |
| 13 | <i>Hieracium Pilosella.</i> | Moufe-ear Chickweed. |
| 14 | <i>Thymus Serpyllum.</i> | Wild Thyme. |

Turf from Oakbanger.

- | | | |
|---|-----------------------------|---------------------------|
| 1 | <i>Trifolium repens.</i> | Creeping or Dutch Clover. |
| 2 | <i>Holcus lanatus.</i> | Meadow Soft Grass. |
| 3 | <i>Poa annua.</i> | Common dwarf Poa. |
| 4 | <i>Agrostis capillaris.</i> | Fine paniced Agrostis. |
| 5 | <i>—— palustris.</i> | Marsh Agrostis. |

Turf from Deortun.

- | | | |
|---|------------------------------|--------------------------------|
| 1 | <i>Ranunculus repens.</i> | Creeping Crowfoot. |
| 2 | <i>Lolium perenne.</i> | Ray Grass or perennial Darnel. |
| 3 | <i>Holcus lanatus.</i> | Meadow soft Grass. |
| 4 | <i>Prunella vulgaris.</i> | Self-heal. |
| 5 | <i>Festuca duriuscula.</i> | Hard Fescue Grass. |
| 6 | <i>Agrostis palustris.</i> | Marsh Agrostis. |
| 7 | <i>Trifolium repens.</i> | Creeping or Dutch Clover. |
| 8 | <i>Crepis tectorum.</i> | Smooth Succory Hawkweed. |
| 9 | <i>Achillea Millefolium.</i> | Yarrow. |

Turf from Glynd Hill.

- | | | |
|---|------------------------------|--|
| 1 | <i>Medicago lupulina.</i> | Black-seeded Medick, Trefoil or Nonfuch. |
| 2 | <i>Achillea Millefolium.</i> | Yarrow. |
| 3 | <i>Poa pratensis.</i> | Smooth-stalk'd Meadow Grass. |

Turf from Glynd Hill.

- | | | |
|----|-----------------------------|---------------------------|
| 4 | <i>Avena flavescens.</i> | Yellow Oat Grass. |
| 5 | <i>Festuca duriuscula.</i> | Hard Fescue Grass. |
| 6 | <i>—— ovina.</i> | Sheeps Fescue Grass. |
| 7 | <i>Hieracium Pilosella.</i> | Moufe-ear Hawkweed |
| 8 | <i>Agrostis capillaris.</i> | Fine paniced Agrostis. |
| 9 | <i>Trifolium repens.</i> | Creeping or Dutch Clover. |
| 10 | <i>Thymus Serpyllum.</i> | Wild Thyme. |

Turf from Short Heath.

- | | | |
|---|-----------------------------|------------------------|
| 1 | <i>Festuca bromioides.</i> | Barren Fescue Grass. |
| 2 | <i>Aira præcox.</i> | Early Aira. |
| 3 | <i>Juncus campestris.</i> | Hairy Rush. |
| 4 | <i>Poa annua.</i> | Common dwarf Poa. |
| 5 | <i>Agrostis capillaris.</i> | Fine paniced Agrostis. |

Turf from Mount Cabron.

- | | | |
|---|------------------------------|--|
| 1 | <i>Rumex acetosa.</i> | Common Sorrel Dock. |
| 2 | <i>Daucus carota.</i> | Wild Carrot. |
| 3 | <i>Medicago lupulina.</i> | Black-seeded Medick, Trefoil or Nonfuch. |
| 4 | <i>Poterium sanguisorba.</i> | Burnet. |
| 5 | <i>Festuca duriuscula.</i> | Hard Fescue Grass. |
| 6 | <i>Avena flavescens.</i> | Yellow Oat Grass. |

Turf from Ringmer Down.

- | | | |
|----|--------------------------------|------------------------------|
| 1 | <i>Linum catharticum.</i> | Purging Flax. |
| 2 | <i>Scabiosa columbaria.</i> | Sheeps Scabious. |
| 3 | <i>Ornithopus perpusillus.</i> | Bird's-foot. |
| 4 | <i>Avena flavescens.</i> | Yellow Oat Grass. |
| 5 | <i>Festuca duriuscula.</i> | Hard Fescue Grass. |
| 6 | <i>Trifolium repens.</i> | Creeping or Dutch Clover. |
| 7 | <i>Hypochaeris radicata.</i> | Long-rooted Hawkweed. |
| 8 | <i>Crepis tectorum.</i> | Smooth Succory Hawkweed. |
| 9 | <i>Lotus corniculata.</i> | Bird's-foot Trefoil. |
| 10 | <i>Juncus campestris.</i> | Hairy Rush. |
| 11 | <i>Hieracium pilosella.</i> | Moufe-ear Hawkweed. |
| 12 | <i>Festuca ovina.</i> | Sheeps Fescue Grass. |
| 13 | <i>Thymus Serpyllum.</i> | Wild Thyme. |
| 14 | <i>Poa pratensis.</i> | Smooth-stalk'd Meadow Grass. |

These experiments prove that our downs and commons, which we in general consider as more free from weeds than most of our pastures, are altogether an assemblage of different plants; and our meadows are much the same. It must be allowed that there is a considerable difference in them; one meadow, or tract of land, shall naturally contain a greater number of good grasses than another; another shall produce little more than a mixture of unprofitable weeds, such as *Crowfoot*, particularly the creeping sort, *Docks*, *Sorrel*, *Thistles*, *Mallows*, *Yarrow*, *Knapweed*, *Nettles*, *Ragwort*, &c. most of which having strong perennial or creeping roots, continue in the ground, impoverish it, and overrun the few good grasses there are; so that the ground is very little worth. If the ground be manured, the unprofitable and noxious plants are thereby benefited as well as the grass; for it is the extremity of folly to suppose that manure shall produce good plants if the roots or seeds of them were not in the ground before. It must be allowed, however, that if there be in the meadow any strong growing grasses, they may from manure overtop and destroy many annual plants, but not those above-mentioned, which with many others, will grow with their growth and strengthen with their strength.

But it is not this kind of weed alone, which, perhaps, are the most mischievous; these being visible and known to the Farmer may be destroyed; but at the same time the ground may be overrun with bad grasses, which not being so easily distinguished by the Farmer, cannot be so readily destroyed. Now grasses may be considered as bad on several accounts: they may, though good in themselves, produce so small a crop as to be worth little or nothing, as the *early* and *silver Hair Grass* and *Wall Poa*: they may, either from their rankness, roughness, or some other qualities not perceptible to us, be such as cattle are not fond of, as *Cats-tail Grass*, *Rough Cocks-foot* and some others: they may die on the ground, and give the meadows a dead and disagreeable appearance in the winter, as some of the species of *Agrostis*: or they may blow late in the summer, and be not fit for cutting 'till most of the good grasses are decayed and gone off: and thus a meadow may be filled with noxious plants as effectually as if they were more evidently so.

Surely then it must be worth the persons while, who would wish to lay down his land for meadow or pasture, or improve what is already bad; to be at some pains and expence about it, and sow it with as much caution as he would to produce a crop of fine Wheat; the more so, indeed, as when his land is once filled with good grasses, it remains a good meadow, or good pasture for ever, which will always look pleasing, and if properly manured, and the season prove not remarkably unfavourable, will each year produce a plentiful crop.

I have already observed, in speaking of the *Poa pratensis*, that a good meadow must consist of a variety of grasses, which ought all to come into bloom nearly at the same time; and if the grasses be of the right kinds, they will begin to blow, and the whole meadow be fit for mowing the last week in May. The advantages of this early hay-making are very considerable: this part of the year is very often extremely favourable in point of weather to the making of hay: it is not postponed so as to interfere with the harvest: cattle may be turned the sooner into the fields to graze; or another crop of hay be produced in good time for the second making.

ALOPECURUS MYOSUROIDES. FIELD FOXTAIL GRASS.

ALOPECURUS *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis. *Cor.* 1-valvis?

Rai Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *myosuroides* spica cylindrica longissima, glumis glabris; culmo suberecto. *Hudson Fl. Angl.* p. 23.

ALOPECURUS *Agrestis* culmo spicato erecto, glumis lævibus. *Lin. Syst. Vegetab.* p. 93. *Sp. Pl.* p. 89.

ALOPECURUS culmo erecto, spicato, calyce ciliato. *Haller hist. helv.* p. 249.

GRAMEN Typhoides spica angustiore. *Baubin Pin.* 4.

GRAMEN cum cauda muris purpurascens. *I. Baubin.* 2. p. 473.

GRAMEN spicatum, spica cylindracea tenuissima longiore. *Scheuch. Gram.* 69.

GRAMEN *myosuroides* majus, spica longiore, aristis rectis. *Raii Syn.* p. 397, The greater Mouse-tail Grass.

GRAMEN alopecuroides spica longa majus et minus. *Parkinson* 1169.

GRAMEN alopecuroides minus. *Gerard emac.* 10. *Lightfoot Fl. Scot.* p. 91. *Schreber. Gram.* 140. t. 19. fig. 2.

RADIX annua, fibrosa, fusca.

CULMUS pedalis, erectus, basi sæpe infractus, rigidiusculus, teres, geniculatus.

FOLIA triuncialia, ad duas lineas lata, lævia, striata, basi membranâ obtusâ instructa.

SPICA longa, tenuis, subcylindracea, purpurascens.

SPICULÆ unifloræ, ovato-acutæ, in spicam imbricatum congestæ, externe convexulæ, interne planæ, fig. 1.

CALYX: GLUMA bivalvis, uniflora; valvulæ subæquales, muticæ, nervosæ, basi annulo cinctæ, fig. 2, 3.

COROLLA univalvis, valvulâ calyce paulo longiore, membranaceâ, lævi, fig. 4, Aristâ recta, e basi valvulæ exserta, spiculâ duplo fere longiore instructa, fig. 5.

STAMINA: FILAMENTA tria, capillaria, erecta, valvulis calycinis duplo longiora: ANTHERÆ oblongæ, utrinque furcatæ, fig. 6.

PISTILLUM: GERMEN minimum, fig. 7: STYLUS brevis, basi tumidus, fig. 8: STIGMATA duo, setacea villosa apice reflexa, fig. 9.

SEMEN unicum, minimum, subrotundum, corollæ et calyce obvestitum, fig. 10.

ROOT annual, fibrous, and brown.

STALK a foot high, upright, often crooked at bottom, stiffish, round, and jointed; the joints smooth and purple.

LEAVES about three inches long and two lines broad, smooth, striated, furnished at bottom with an obtuse membrane.

SPIKE long, slender, somewhat cylindrical, and purplish.

SPICULÆ uniflorous, of a pointed oval shape, lying closely one over another in a spike, externally roundish, internally flat, fig. 1.

CALYX: a GLUME of two valves, containing one flower; the valves nearly equal, not terminated by any short Arista, strongly rib'd, and surrounded at bottom by a ring, fig. 2, 3.

COROLLA of one valve, the valve a little longer than the calyx, membranous, and smooth, fig. 4, furnished with a straight Arista, which proceeds from the base of the valve, and is nearly twice the length of the spicula, fig. 5.

STAMINA: three FILAMENTS, very fine, upright, twice the length of the valves of the calyx: ANTHERÆ oblong, and forked at each end, fig. 6.

PISTILLUM: GERMEN very small, fig. 7: STYLE short, swelled at bottom, fig. 8: STIGMATA two, tapering, villous, bent back at top, fig. 9.

SEED one, very minute, enclosed by the corolla and calyx, fig. 10.

THE Field Foxtail Grass, with respect to agriculture, may be considered rather as a weed than as an useful pasture grass.

It is very common in cultivated ground; and often abounds so much in corn fields, as to be prejudicial, among rubbish, and on banks by the sides of fields, it is also frequently found; but scarce ever in meadows.

It flowers early, and continues to blossom till Autumn; and comes into bloom the quickest, after being sown, of any grass that I have hitherto noticed.

It is distinguished from the other species of the same genus, by its long slender spike, which tapers to a point, and has some resemblance to a mouse's tail, whence J. BAUHINE's and Mr. HUDSON's names. This spike is generally of a purplish colour, at least on that side which is most exposed to the sun; though sometimes the whole spike appears of a whitish colour. The form of the spike, and its place of growth, will, in general, point out this species plainly enough. But if these should be found deficient, the student may have recourse to the annulus or ring, which furrounds the base of each spicula, *vid. fig. 3.*

I have found this species effected with the disease called Ergot, described under the Flote Fescue Grass.



Alopecurus myosuroides

BROMUS HIRSUTUS. HAIRY-STALK'D BROME-GRASS.

BROMUS *Linnaei* Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teres, disticha; arista infra apicem.

Raii Syn. Gen. 27. GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *hirsutus* panicula nutante scabra, spiculis teretibus sublinearibus decemfloris, aristis rectis, vaginis foliorum hirsutis.

BROMUS *ramosus* panicula nutante scabra, spiculis linearibus decemfloris, arista longioribus, foliis scabris. *Hudson Fl. Angl.* p. 40.

BROMUS foliis hirsutis, per oras asperimis, locustis glabris, teretibus, novemfloris. *Haller hist. n.* 1503.

BROMUS *giganteus*. *Scopoli Flor. Carn.* var. 2. villosa et major.

GRAMEN Avenaceum dumetorum panicula sparsa. *Raii Syn.* p. 415. *Hist. Plant.* p. 1289. Bush or Wood Oat-Grass, with a sparsed panicle.

GRAMEN Avenaceum dumetorum paniculatum majus hirsutum. *H. Ox.* 3. 213. 27.

RADIX perennis, plurimis fibris, flexuosis, flavescens, instructa.

CULMUS tripedalis, ad orgyalem aut etiam supra, erectus, tribus plerumque nodis articulatus, solidus, striatus.

FOLIA: *Vagina* striata, pilis longis, crebris, rigidiusculis, deorsum versus hirsuta: *Folia* ipsa pedalia, femuncialia, deflexa, striata, rarioribus et brevioribus pilis usque ad margines et mediam costam præcipue donata.

PANICULA pedalis, sparsa, rami binati aut ternati, patentes, nutantes, scabri, sæpe flexuosi.

SPICULÆ plerumque binæ, sesquiunciales, tenues, teretiusculæ, rectæ, vix hirsutæ, decemfloræ, ad basin annulo diaphano notatæ, fig. 3: ARISTÆ breves, scabræ, rectiusculæ, fig. 1.

CALYX: GLUMA bivalvis, fig. 2; valvulis inæqualibus, majore concavâ, interne nitidâ, trinerve, mucronata, nervis scabris, minore unicarinatâ acuminatâ.

COROLLA: GLUMA bivalvis, valvulis inæqualibus, exteriore trinerve, nervis exstantibus, nervo medio in Aristam rectiusculam Corollâ brevioris definente, interiore planiusculâ, ciliatâ, brevioris, fig. 4, 5, 6.

NECTARIUM GLUMULÆ duæ ad basin Germinis, fig. 8.

STAMINA: FILAMENTA tria, capillaria: ANTHERÆ bifurcæ, flavæ, fig. 7.

PISTILLUM: GERMEN subovatum, basi nudum, apice villosum: STYLI duo, usque ad basin ramosi, fig. 10.

SEMEN planiusculum, aristatum, glumis adhærentibus, fig. 11, 12, 13.

ROOT perennial, furnished with numerous, crooked, yellowish fibres.

STALK from three to six feet high, or more, upright, consisting generally of three joints, solid and finely grooved.

LEAVES: the *sheath* striated, covered with numerous long hairs, which are somewhat rigid, and bend backwards: the *Leaves* themselves a foot long, and half an inch broad, beset with fewer and shorter hairs, and those chiefly at the edges and midrib.

PANICLE a foot long, spreading, the branches growing two or three together, hanging down, rough, and often crooked.

SPICULÆ generally growing two together, an inch and a half long, slender, roundish, straight, scarcely hirsute, containing ten flowers, and marked at the base with a pellucid ring, fig. 3. The ARISTA short, rough, and nearly straight, fig. 1.

CALYX: a GLUME of two valves, fig. 2; the valves unequal; the larger one concave, and shining within, having three ribs, and terminating in a short point, the ribs rough; the smaller one having only one rib, and a more tapering point.

COROLLA: a GLUME of two valves, the valves unequal, the exterior one having three prominent ribs, the middle one of which terminates in a straightish Arista, shorter than the Corolla; the inner one flattish, edged with hairs, and shorter than the other, fig. 4, 5, 6.

NECTARY; two little GLUMES at the base of the Germen, fig. 8.

STAMINA: three FILAMENTS, very fine: ANTHERÆ forked and yellow, fig. 7.

PISTILLUM: GERMEN somewhat oval, naked at bottom, at top villous: STYLES two, branched quite to the bottom, fig. 10.

SEED flattish, terminated by an Arista, the Glumes adhering to it, fig. 11, 12, 13.

THAT the plant here figured, is not the *Bromus ramosus* of LINNÆUS, I have learned from Dr. SOLANDER and Mr. BANKS, whose authority in this matter will not be controverted.

I have therefore called it *hirsutus*, from a wish that a trivial name might be given it, which should not only characterize the plant, but at the same time, distinguish it from a Grass which is undoubtedly often mistaken for it, as it frequently grows with it, is nearly of the same height, and flowers about the same time: I mean the *Bromus giganteus* of LINNÆUS, figured by SCHREBER, the leaves and stalks of which are perfectly smooth.

The *Bromus hirsutus* is the tallest of our English grasses, often exceeding six feet in height, which renders it a very conspicuous grass. The *Festuca elatior*, and *Bromus giganteus*, will however often grow nearly as high in particular situations.

It occurs in most of our hedges in the environs of London, particularly about *Hampstead*; abundantly also in *Kent*; and flowers in June and July.

Exclusive of its height before mentioned, it is distinguished from all our other grasses by the hairiness of its stalk, or rather the sheaths of the leaves which cover it; and this, so far as I have hitherto observed, is an infallible criterion.

It appears to be too coarse a grass to be cultivated for cattle; and we do not learn that it has been applied to any other purposes.



Bromus hirsutus

Sansem. Sculp.

GALIUM APARINE. CLEAVERS OR GOOSE GRASS.

GALIUM *Linnaei*. Gen. Pl. TETRANDRIA MONOGYNIA.

Cor. 1-petala, plana. Sem. 2, subrotunda.

Raii Gen. 12. HERBÆ STELLATÆ.

GALIUM *Aparine* foliis octonis lanceolatis, carinis scabris retrorsum aculeatis, geniculis villosis, fructibus hispidis. *Linnaei Syst. Vegetab.* p. 127. *Sp. Pl.* 157. *Flor. Suecic.* p. 45.

GALIUM caule ferrato, foliis fenis, linearibus, lanceolatis, ferratis, petiolis unifloris. *Haller hist. helv.* n. 723.

GALIUM *Aparine*. *Scopoli Fl. Carniol.* n. 157.

APARINE vulgaris. *Baubin Pin.* 334.

APARINE *Gerard emac.* 1122. *Parkinson* 567. *Raii Syn.* p. 225, Cleavers or Goose-Grass. *Hudson Fl. Angl.* p. 57. *Oeder Flor. Dan. icon.* 495. *Lightfoot Flor. Scot.* p. 117.

RADIX annua, fibrosa.

CAULIS tetragonus, angulis retrorsum aculeatis, debilis, fragilis, geniculatus, basi articulorum villosus, ramosissimus, ad quatuor et ultra pedes altus, proxima quæque scandens, adhærescensque.

RAMI oppositi.

FOLIA fœna ad octona, lanceolato-linearia, mucronata, superne scabra, inferne glabra margine et carina retrorsum aculeatis.

FLORES pauci, parvi, albidi, petiolis scabris infidentibus.

CALYX nullus.

COROLLA minima, monopetala, rotata, albida, quadripartita, laciniis ovato-acutis, fig. 1.

STAMINA: FILAMENTA quatuor, brevia, alba: ANTHERÆ luteæ, fig. 2.

PISTILLUM: GERMEN didymum, inferum, villosum: STYLI duo Corollæ breviores: STIGMATA globosa, fig. 4, 5, 6.

PERICARPIUM: BACCÆ duæ, siccæ, globosæ, coalitæ, hispidæ, aculeis recurvis, fig. 7.

SEMINA solitaria, reniformia, magna.

ROOT annual, fibrous.

STALK quadrangular, the angles furnished with aculei or prickles, which bend backward, weak, brittle, and jointed; the bottom of the joints villous, very much branched, growing to four feet or more high, climbing and adhering to every plant near it.

BRANCHES opposite.

LEAVES growing six or eight together, of a shape betwixt lanceolate and linear, terminating in a point, rough on the upper side, on the under side smooth, the edge and midrib, or keel rough, with sharp prickles bending backwards.

FLOWERS few, small, and whitish, sitting on rough foot-stalks.

CALYX wanting.

COROLLA very minute, monopetalous, wheel-shaped, of a whitish colour, divided into four oval pointed segments, fig. 1.

STAMINA: four short white FILAMENTS: ANTHERÆ yellow, fig. 2.

PISTILLUM: GERMEN double, below the Corolla, villous: STYLES two, shorter than the Corolla: STIGMATA globular, fig. 4, 5, 6.

SEED-VESSEL: two dry globular BERRIES, slightly joined together, rough with prickles bending back at the point, fig. 7.

SEEDS single, somewhat kidney shaped, and large.

THIS plant has most probably obtained its name of *Cleavers*, from its cleaving or adhering to whatever it comes in contact with, which it is in a peculiar manner enabled to do, by its hooked prickles; and that of *Goose-Grass* from its being a favourite food of Geese.

It abounds in all cultivated ground, and by its quick growth, is apt to overpower many plants both in the garden and field. Young quickset hedges, in a particular manner, should be carefully freed from it. It is an early blowing plant, and produces its seed from June to September.

Dioscorides observes, that the shepherds made use of it as a strainer to filter their milk through.

If the accounts given of it, by writers on the *Materia Medica*, are to be depended on, it is not without considerable medicinal powers.

The expressed juice of the seeds, stalks, and leaves, are powerful against the bites of vipers and spiders; and the same dropt into the ears, cures the pain of them; *Raii hist.* p. 484.

The herb mixed with lard, dissolves scrophulous swellings; *idem.*

The tops are an ingredient in spring broth, for purifying the blood; *Rutty Mater. Med.*

The seeds have been made use of by some instead of coffee; *idem.*

A strong decoction of the herb, taken to the quantity of twelve ounces, morning and evening, has brought away gravel in many cases; *idem.*

The root eaten by birds, has tinged their bones of a red colour, as in experiments made with madder; *idem.*

A decoction of the plant has proved highly serviceable in a simple gonorrhœa; *D. Palmer apud Dale.*

Of late this plant has been much celebrated in scrophulous and cancerous sores: but experiments carefully made with it, in St. Thomas's Hospital, have not turned out in its favour.

It is eaten by horses, kine, sheep, and goats, but refused by swine; *Linn. Amæn. Acad.*

The Calyx in this species, is certainly wanting.



Galium aparine

PLANTAGO LANCEOLATA. NARROW-LEAVED PLANTAIN OR RIBWORT.

PLANTAGO *Linnaei Gen. Pl.* TETRANDRIA MONOGYNIA.

Cal. 4-fidus. *Cor.* 4-fida: limbo reflexo. *Stamina* longissima. *Caps.* 2-locularis, circumscissa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

PLANTAGO lanceolata foliis lanceolatis, spica subovata nuda, scapo angulato. *Linn. Syst. Vegetab. p. 131.*

PLANTAGO foliis lanceolatis quinquenerviis, scapo nudo, spica ovata. *Haller hist. n. 656.*

PLANTAGO lanceolata. *Scopoli Fl. Carniol. p. 108. n. 163.*

PLANTAGO angustifolia major. *Baylin Pin. 189.*

PLANTAGO quinquenervia. *Gerard emac. 422.*

PLANTAGO quinquenervia major. *Parkinson 495. Raii Syn. p. 314, Ribwort or Ribwort-Plantain,*

Hudson Fl. Angl. p. 52. Oeder Fl. Dan. icon. 437.

RADIX perennis, fusca, fibris multis instructa, per ætatem præmorsa.

FOLIA longe petiolata, basi purpurea, lanuginosa, lanceolata, quoad latitudinem insigniter variantia, quinquenervia, rariter dentata, hirsutula, erecta, nonnunquam vero patentia.

SCAPUS foliis longior, simplex, fulcato-angulosus, subtortuosus, erectus.

SPICÆ ovato-oblongæ, nigricantes.

BRACTÆA singulo flosculo imposita, ovato-acuminata, concava, *fig. 1.*

CALYX: PERIANTHIUM triphyllum, foliolis inæqualibus, duo lateralia cymbiformia, acuta, *fig. 3,* dorsale ovatum, obtusum, emarginatum, lineis duabus viridibus notatum, *fig. 2.*

COROLLA monopetala, tubulosa, membranacea, cylindraceo-globosa, limbus quadripartitus, laciniis ovato-acutis, patentibus, dempto calyce reflexis, *fig. 4.*

STAMINA: FILAMENTA quatuor longissima: ANTHERÆ albidæ aut flavescens, *fig. 5.*

PISTILLUM: GERMEN ovatum: STYLUS filiformis, staminibus dimidio brevior: STIGMA simplex, *fig. 6.*

PERICARPIUM: CAPSULA ovata, bilocularis, circumscissa, dissepimento libero, *fig. 7, 8.*

SEMINA duo, oblonga, nitida, fuccinei coloris, hinc convexa inde concava, *fig. 9, 10, 11.*

ROOT perennial, of a brown colour, furnished with numerous fibres, when grown old appearing as if bitten off.

LEAVES standing on long foot-stalks, purple and woolly at bottom, lanceolate, varying remarkably in their breadth, having five ribs, and a few teeth at the edges, somewhat hairy, upright, but sometimes spreading.

FLOWERING-STALK longer than the leaves, simple, angular and grooved, slightly twisted and upright.

SPIKES of an oval oblong shape and blackish colour.

BRACTEÆ or floral leaf, placed under each floscule, oval-pointed, and concave, *fig. 1.*

CALYX: a PERIANTHIUM of three unequal leaves, the two side ones boat-shaped, and pointed, *fig. 3;* the back leaf oval, obtuse, emarginate, *fig. 2,* and marked with two green lines.

COROLLA monopetalous, tubular, membranous, of a form betwixt globular and cylindrical; the limb quadripartite; the segments of an oval pointed shape, and spreading, on the removal of the calyx turning back, *fig. 4.*

STAMINA: four very long FILAMENTS: ANTHERÆ white or yellowish, *fig. 5.*

PISTILLUM: GERMEN oval: STYLE filiform, half the length of the stamens: STIGMA simple, *fig. 6.*

SEED - VESSEL: an oval CAPSULE of two cavities, dividing horizontally in the middle, the dissepimentum or partition loose, *fig. 7, 8.*

SEEDS two, oblong, shining, of an amber colour, convex on one side and concave on the other, *fig. 9, 10, 11.*

THE Farmers in general consider this species of *Plantain* as a favourite food of sheep, and other cattle, hence it is frequently recommended in the laying down of meadow and pasture land; and the seed is for that purpose kept in the shops. How far the predilection of cattle for this herb is founded in truth we cannot at present determine; nor do we pretend to say how far it is economical (supposing the fact to be so) to substitute this plant in the room of others which produce a much greater crop, and which they shew no aversion to. We should be rather inclined to think, that *Plantain* (or *Rib-Grass* as it is called) should be but sparingly made use of, particularly if the Farmers chief aim be a crop.

When the *Plantain* grows among pasturage, its leaves are drawn up to a considerable height: but when it occurs in a dry and barren soil, they are shorter, broader, and more spread on the ground; and sometimes they assume a silvery hue.

It grows spontaneously by the sides of roads, and in dry pastures; flowering early in the summer.



Plantago lanceolata

PLANTAGO MAJOR. COMMON PLANTAIN.

PLANTAGO *Linnaei. Gen. Pl. TETRANDRIA MONOGYNIA.*

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALÆ ANOMALÆ.

PLANTAGO *major* foliis ovatis glabris, scapo tereti, spica flosculis imbricatis. *Lin. Syst. Vegetab. p. 131. Spec. Plant. p. 163. Fl. Suecic. n. 129.*

PLANTAGO foliis petiolatis, ovatis, glabris; spica cylindrica. *Haller. bist. Helv. n. 660.*

PLANTAGO *major. Scopoli. Fl. Carniol. n. 161.*

PLANTAGO latifolia finuata. *Baubin pin. 189.*

PLANTAGO latifolia *Ger. emac. 419.*

PLANTAGO latifolia vulgaris. *Parkinson. 493. Raii Syn. 314. Great Plantain or Waybread. Hudson Fl. Angl. p. 51. Oeder. Fl. Dan. ic. 461. Lightfoot. Fl. Scot. p. 117.*

RADIX vetusta pollicaris, præmorsa, plurimis fibris albidis alte demissis, terram firmiter apprehendens.

FOLIA petiolata præmorsa, ovata, septemnervia, glabra, juniora vero hirsutula, palmaria, margine minutim remoteque dentata.

PETIOLI longi, subtus convexi, supra concavi, basi subvaginati.

SCAPI teretes, erecti, pubescentes, foliis longiores.

SPICÆ cylindricæ, longæ, floribus undique imbricatæ.

BRACTEA lanceolata, concava, sub singulo flosculo. *fig. 1.*

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, obtusis, lævibus, subæqualibus, persistentibus. *fig. 2.*

COROLLA monopetala, persistens, marcescens; TUBUS cylindrico-globosus, brevis, laciniis ovato-acutis, reflexis. *fig. 3.*

STAMINA: FILAMENTA quatuor, capillaria, patentia, corollâ multo longiora; ANTHERÆ purpureæ, biloculares, singulo loculo basi mucrone terminato. *fig. 4.*

PISTILLUM: GERMEN ovatum; STYLUS filiformis, staminibus brevior, villosus; STIGMA simplex. *fig. 5. 6.*

PERICARPIUM: CAPSULA ovata, circumscissa, fusca, continens SEMINA circiter 20 inæqualia, fusca. *fig. 7. 8. 9. 10.*

ROOT when old the thickness of ones thumb, stumped, laying strong hold of the earth by its fibres, which strike deeply into it and are of a whitish colour.

LEAVES standing on footstalks, oval, having seven ribs, smooth, but somewhat hairy when young, about four fingers in length, the edge minutely and remotely indented.

FOOT-STALKS of the leaves long, convex on the under side, concave above, each forming a kind of sheath at its base.

FLOWER-STALKS, round, upright, pubescent, and longer than the leaves.

SPIKES cylindrical, long, surrounded on every side with flowers lying one over another.

BRACTEA lanceolate, and hollow, under each flower. *fig. 1.*

CALYX: a PERIANTHIUM of four leaves, which are oval, concave, obtuse, smooth, nearly equal and continuing. *fig. 2.*

COROLLA monopetalous, continuing, of a withered appearance; TUBE of a cylindrical globular form, and short; the SEGMENTS oval, pointed, and turned back. *fig. 3.*

STAMINA: FILAMENTS four, very small, spreading, much longer than the corolla; ANTHERÆ purple, bilocular, each cell terminating at bottom in a point. *fig. 4.*

PISTILLUM: GERMEN oval; STYLE filiform, shorter than the Stamina, villous; STIGMA simple. *fig. 5. 6.*

SEED-VESSEL: an oval CAPSULE, dividing horizontally in the middle, and containing about 20 unequal brown SEEDS. *fig. 7. 8. 9. 10.*

This species of *Plantain* grows plentifully in Meadows, Gardens, and by the sides of Paths, and seems to flourish most in places moderately trodden on, whence perhaps its name of *Way-bread*.

In rich ground the leaves often grow to an enormous size; and in gardens we often find cultivated, a very singular and monstrous variety of this plant, the *Plantago rosea* of some botanists, or Rose Plantain of the Gardeners, in which the flowers appear to be converted into leaves, which spread open somewhat like a rose.

Cattle in general appear very readily to eat the leaves, and the seeds are well known to afford food to many of the small birds.

It used to be held in considerable esteem as a Medicine of the vulnerary kind: In the present practice the distilled water is sometimes made use of, and chiefly in ulcerations of the Mouth and Throat. By the common people the leaves are often applied to fresh wounds, and burns.

It differs remarkably in the number of its seeds from the *Plantago lanceolata*, in which we constantly find two large seeds; but in this I have most commonly found about twenty small ones; yet what is very extraordinary, *RAY* and *SCOPOLI* mention its having only two.



Plantago major

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Sagina erecta

Sanson Sculp.

SAGINA ERECTA. UPRIGHT PEARLWORT.

SAGINA *Linnaei* Gen. Pl. TETRANDRIA TETRAGYNIA.

Cal. 4-phyllus. Petala 4. Caps. 1 locularis, 4 valvis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA *erecta* caule erecto subunifloro. Linn. Syst. Vegetab. p. 142. Sp. Pl. p. 185.

ALSINELLA foliis caryophylleis. Cat. Giss. 47.

SAGINA scapis unifloris. Guett. Stamp. p. 276. Dalib. Paris. p. 56.

ALSINE verna glabra. Magn. Monsp. 14. Vaill. Paris. 6. t. 3. fig. 2. Raii Syn. fig. 4. t. 15. p. 344, the least Stich-wort.

Hudson. Fl. Angl. ed. 2. p. 73.

Lightfoot. Fl. Scot. p. 125.

RADIX annua, simplex, fibrosa.	ROOT annual, simple, and fibrous.
CAULES plerumque plures, supra terram expansi, ascendentes, bi aut triunciales, teretes, purpurascens, laeves, geniculati, uniflori, biflori aut etiam triflori.	STALKS for the most part several, expanded on the earth, and afterwards rising upright, from two to three inches high, round, purplish, smooth, jointed, supporting from one to three flowers.
FOLIA glauca, inferiora linearia, sessilia, rigida, lineâ longitudinali exarata, caulina connata, sæpe recurvata, latiora, magisque acuminata.	LEAVES glaucous; the lower ones linear, sessile, rigid, grooved; those on the stalk uniting at their base, often bent back, broader, and more pointed.
CALYX: PERIANTHIUM tetraphyllum, persistens, foliolis ovato acuminatis, erectis, plerumque clausis, margine membranaceis albidis, lævibus, glaucis, fig. 1.	CALYX: a PERIANTHIUM of four leaves, permanent, the leaves oval and pointed, upright, generally closed, membranous and whitish on the edges, smooth and glaucous.
COROLLA: PETALA quatuor calyce breviora, alba, oblonga, obtusa, substriata, apice indivisa, fig. 2, auct.	COROLLA: four PETALS shorter than the calyx, white, oblong, obtuse, somewhat striated, and undivided at top, fig. 2. magnified.
STAMINA: FILAMENTA quatuor, intra petala locata, petalis paulo breviora, setacea: ANTHERÆ subrotundæ, didymæ, flavescentes, fig. 3, 4.	STAMINA: four FILAMENTS placed between the petals, and a little shorter than the petals, setaceous: ANTHERÆ roundish, double, of a yellowish colour, fig. 3, 4.
PISTILLUM: GERMEN ovatum: STYLUS brevissimus, longitudine staminum: STIGMATA quatuor, villosa, reflexa, fig. 5, 6.	PISTILLUM: GERMEN oval: STYLE very short, the length of the stamina: STIGMATA four, villous, and turning back, fig. 5, 6.
PERICARPIUM: CAPSULA oblongo ovata, membranacea, unilocularis, univalvis, calyce paulo longior, ore plerumque decemdentato, fig. 7, 9, fig. 8, auct.	PERICARPIUM: an oblong, oval, membranous CAPSULE, of one cavity and one valve, a little longer than the calyx, the mouth opening generally with ten teeth, fig. 7, 9. fig. 8, magn.
SEMINA plurima, e fusco aurantiaca; subreniformia, scabra, fig. 10, 11.	SEEDS numerous, of an orange brown colour, somewhat kidney-shaped, and rough on the surface, fig. 10, 11.

IN treating of this little plant, we have been rather at a loss whether to consider it as a new genus, or arrange it with the *Sagina* of LINNÆUS: for though it agrees with the *Sagina* in some of its most striking characters, such as having a Calyx and Corolla each consisting of four leaves, together with four Stamina and Pistilla, yet in its seed-vessels, which probably LINNÆUS might not have seen in a perfect state, it greatly resembles a *Cerastium*; while the whole plant, in its habit and glaucous appearance, approaches nearly to the *Stellaria Holostea*. As there are but few genera however, whose species do not vary considerably in the parts of fructification, we have thought it most eligible to continue it a *Sagina*; especially as it retains those characters, which obviously distinguish it from any of the Decandrous plants.

We meet with it abundantly on most of the Heaths about London, particularly on *Black-heath*. It flowers in April, and ripens its seed in May. The calyx never opens far, so that the blossoms are not suffered fully to expand.

If the season prove dry, as hath been most unusually the case this year, 1779, the stalk is generally simple; but if the ground be moist, it throws out many stalks, which first spread on the earth, and afterwards become upright, as is represented in the middle figure.

CONVOLVULUS ARVENSIS. FIELD CONVOLVULUS.

CONVOLVULUS *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. campanulata, plicata. *Stigm.* 2. *Caps.* 2-locularis: loculis dispermis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

CONVOLVULUS *arvensis* foliis sagittatis utrinque acutis, pedunculis subunifloris. *Lin. Syst. Veget. p.* 168.

Sp. Pl. p. 218. *Flor. Suecic. p.* 64.

CONVOLVULUS foliis sagittatis, latefcentibus, petiolis unifloris, stipulis remotis sagittatis. *Haller. hist. helv. n.* 664.

CONVOLVULUS *arvensis*. *Scopoli Fl. Carn. n.* 219.

CONVOLVULUS minor *arvensis*. *Baubin. pin.* 294.

CONVOLVULUS minor vulgaris. *Parkinson. 171.*

SMILAX lævis minor. *Gerard emac.* 861.

Raii Syn. p. 275, Small Bindweed.

Hudson Fl. Angl. ed. 1. p. 74. *ed. 2. p.* 88.

Lightfoot Fl. Scot. p. 140.

Oeder Fl. Dan. icon. 459.

RADIX perennis, crassitudinis pennæ coracis, teres, albida, lactescens, repens, vix extirpanda.

CAULES plurimi, tenues, tortuosi, procumbentes, ramosi, plantas vicinas contorquendo adscendentes et sæpe suffocantes.

FOLIA alterna, hastata, lævia, postice acutè hamata.

PETIOLI foliis breviores, inferne convexi, superne canaliculati.

PEDUNCULI uniflori, biflori aut triflori.

CALYX: PERIANTHIUM quinquepartitum, minimum, persistens, foliolis ovatis, obtusiusculis, *fig. 1.*

COROLLA monopetala, campanulata, patens, plicata, albo et rubro eleganter picta, interdum penitus alba, *fig. 2.*

STAMINA: FILAMENTA quinque subulata, alba, Corollâ dimidio breviora: ANTHERÆ subgittatæ, albæ, *fig. 3.*

PISTILLUM: GERMEN subrotundum, glandulâ cinctum: STYLUS filiformis, Staminiibus paulo longior: STIGMATA duo, oblonga, latiuscula, *fig. 4, 5, 6.*

PERICARPIUM: CAPSULA subrotunda, mucronata. SEMINA angulosa, fusca.

ROOT perennial, the thickness of a crow quill, round, white, milky, creeping so as scarce to be eradicated.

STALKS numerous, slender, twisted, procumbent, branched, twining round, and often suffocating the plants growing near them.

LEAVES alternate, hastate, smooth, running out into two points behind.

LEAF-STALKS shorter than the leaves, on the lower part convex, on the upper part channeled.

FLOWER-STALKS supporting one, two, or three flowers.

CALYX: a PERIANTHIUM deeply divided into five segments, minute and permanent, the leaves oval and somewhat blunt, *fig. 1.*

COROLLA monopetalous, bell-shaped, spreading, plaited, elegantly painted with red and white, sometimes wholly white.

STAMINA: five FILAMENTS, tapering, white, about half the length of the Corolla; ANTHERÆ somewhat arrow-shaped, and white, *fig. 3.*

PISTILLUM: GERMEN roundish, surrounded by a gland; STYLE filiform, a little longer than the Stamina; STIGMATA two, oblong, and broadish, *fig. 4, 5, 6.*

SEED-VESSEL: a roundish, pointed CAPSULE.

SEEDS angular, and brown.

BEAUTIFUL as this plant appears to the eye, experience proves it to have a most pernicious tendency in agriculture: the field of the slovenly farmer bears evident testimony of this; nor is the garden wholly exempt from its inroads.

The following experiment may serve to show what precaution is necessary in the introduction of plants into a garden, especially when we want them to grow in some particular situation.

Tempted by the lively appearance which I had often observed some banks to assume, from being covered with the blossoms of this *Convolvulus*, I planted twelve feet of a bank, in my garden, which was about four feet in height, with some roots of it: it was early in the spring, and the season was remarkably dry, so that I scarce expected to see them grow; but a wet season coming on, soon convinced me that my apprehensions were unnecessary, for they quickly covered the whole surface of the bank, to the almost total extirpation of every other plant. It being a generally received opinion, that if a plant was cut down close to the ground, it would thereby be destroyed, or at least very much weakened, I was determined to try the validity of this opinion by an experiment, and accordingly, the whole of the *Convolvulus* was cut down somewhat below the surface of the earth: in about a month, the bank was covered with it thicker than before. I then had recourse to a second cutting, and afterwards to a third, but all these were insufficient; for now at this present writing (August) the bank is wholly covered with it; nor do I expect to destroy it, but by levelling the bank and destroying its roots.

This experiment seems to determine a matter of no small consequence in agriculture, viz. that the cutting down these plants which have creeping roots, rather tends to make them spread farther than destroy them; and that nothing short of actual eradication, will effect the latter.

It is seldom that this plant is highly prejudicial to meadows, or pastures; but many fields of corn are every year destroyed by it, or rendered of little value.

It flowers in June and July. The blossoms vary considerably in their colour, being sometimes quite white, but most commonly painted more or less, with a lively red.

LINNÆUS's character of this plant, *pedunculis unifloris*, does not always hold good; the flower-stalks being frequently branched, and supporting two or three flowers.

The leaves sometimes appear quite narrow, and the blossoms have been observed to be divided almost to the base, *vid. Ray's Synopsis, ed. 3, p. 276.*

Convolvulus arvensis





Solanum nigrum

SOLANUM NIGRUM. GARDEN NIGHTSHADE.

SOLANUM *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. Antheræ subcoalitæ, apice poro gemino dehiscentes. Bacca bilocularis.

Raii Syn. Gen. 26. HERBÆ BACCIFERÆ.

SOLANUM *nigrum* caule inermi herbaceo, foliis ovatis dentato-angulatis, racemis distichis nutantibus. *Linnaei Syst. Vegetab. p. 187. Sp. pl. p. 266. Fl. suecic. p. 71. Haller. bist. v. 1. p. 249. n. 576.*

SOLANUM *nigrum, Scopoli Fl. Carniol. p. 258.*

SOLANUM *officinarium. Baubin pin. p. 166.*

SOLANUM *vulgare. Parkinson. 346.*

SOLANUM *hortense, Ger. emac. 339.*

Raii Syn. 254. Hudson, Fl. angl. p. 78. Oeder. Dan. 460.

Tota planta contusa tetrum odorem spirat.

RADIX annua, ramosa, albida.

CAULIS pedalis aut bipedalis, ramosissimus, subangulosus ex foliis decurrentibus, scabriusculus, solidus, ad geniculos paululum incrassatus, obscure viridis, seu ex viridi purpureus praesertim ad basin et ad nodos.

RAMI alterni, cauli similes.

FOLIA alterna, longe petiolata, subdecurrentia, ovato-acuta, anguloso-dentata, hirsutæ molli.

FLORES subumbellati; PETIOLUS patens ex intermedio nodorum.

CALYX: PERIANTHIUM quinquepartitum, foliolis ovatis persistens, fructibus maturis paululum reflexis. *fig. 1.*

COROLLA monopetala, subrotata, alba, laciniis ovato-acutis. *fig. 2.*

STAMINA: FILAMENTA quinque brevissima, villosa, alba *fig. 4.* ANTHERÆ oblongæ, flavæ, subcoalitæ, bilocularis, loculis apice perforatis. *fig. 5.*

PISTILLUM: GERMEN subrotundum, viride *fig. 6.* STYLUS subulatus, viridis, parte inferiore villosa *fig. 7.* STIGMA subrotundum. *fig. 8.*

PERICARPIUM: BACCA rotunda, primum viridis demum nigra, bilocularis *fig. 9.*

SEMINA plurima, reniformia, flavescentia. *fig. 10.*

The whole plant when bruised smells very disagreeably.

ROOT annual, branched, and whitish.

STALK from one foot to two feet high, very much branched, somewhat angular from the leaves running down the stalk, roughish, solid, somewhat swelled at the joints, of a dirty green, or rather a purplish green colour, particularly at bottom and at the joints.

BRANCHES alternate, like the stalk.

LEAVES alternate, standing on long footstalks, slightly running down the stalk, of an oval pointed shape, angularly indented, with a soft hairiness.

FLOWERS growing in a kind of Umbell; FOOTSTALK of the flowers spreading, and arising from the middle of the joint.

CALYX: a PERIANTHIUM divided into five segments, which are oval, continuing, and when the fruit is ripe, turning somewhat back. *fig. 1.*

COROLLA monopetalous, somewhat wheel-shaped, of a white colour, the segments oval and pointed. *fig. 2.*

STAMINA: five very short white hairy FILAMENTS, *fig. 4.* ANTHERÆ oblong, yellow, somewhat united, of two cavities, each having a hole at the top. *fig. 5.*

PISTILLUM: GERMEN roundish, and green *fig. 6.* STYLE tapering, green, the lower part villous; STIGMA roundish. *fig. 8.*

SEED-VESSEL: a round berry, first green and afterwards black, of two cavities. *fig. 9.*

SEEDS several, kidney shaped and yellowish. *fig. 10.*

In the year 1757, Mr. GATAKER, Surgeon to the Westminster Hospital, published a treatise on the internal use of *Solanum*, or *Nightshade*; from an apprehension that he had discovered a medicine which, under certain regulations, might with perfect safety be given; and, as he imagined, with great benefit to mankind in many diseases, where the medical practitioner could do little more than sympathize with his distressed patients.

He was induced to make some experiments with the *Nightshades*, from reading an account of a cancerous case cured by the infusion of deadly *Nightshade*; but not being able at that particular season of the year, to procure the deadly *Nightshade*, he was obliged to make use of the dried leaves of the *Solanum nigrum*, or *Garden Nightshade*, here figured, which he found to be very powerful in its operation; even so small a quantity as one grain weight of the leaf, infused in about an ounce of boiling water, would sometimes produce a very considerable effect: but two or three grains seldom fail'd either to vomit, purge, or sweat the patient moderately, or to increase the quantity of urine. It sometimes occasioned a head-ach, giddiness, dimness, and drowsiness; but its most common effects were a heat or warmth diffused over the whole body a few hours after taking the medicine, a plentiful sweat succeeding this heat, and a gentle purging the next day: if a sweat did not break out, an extraordinary discharge of urine was the consequence, which was sometimes followed likewise by a purging: one or more of the natural evacuations were almost always increased. After premising this general account of the action of the medicine, he proceeds to enumerate several cases in which this medicine appeared to him to be efficacious: the principal of these were, two cases of a cancerous nature;—a large ill-conditioned sore of long standing in the leg, attended with fever and inflammation—a violent bruise on the loins and hips;—a swelling, and several painful sores on one leg;—several scrofulous sores in the thigh and foot;—the body covered with scorbutic eruptions;—a malignant corroding ulcer in the back part of the throat;—two cases of Dropsy;—in several cancerous cases where it was made use of, very little advantage was reaped. In most of the above cases, the *garden Nightshade* was made use of, between which and the *deadly*, he found, as to their effects, very little difference: he found the medicine to act differently on different constitutions; and it was his practice to begin with half a grain of the dried leaf in infusion, increasing the dose according to its effects, and repeating it every second or third night.

He remarks that the *Solanum nigrum* was formerly in use for many diseases; yet there were some who decried the use of it internally: and WEPFER gives an account of three Children poisoned by it: nevertheless some authors mention it as used in food. But surely if an infusion of a few grains of this plant be capable of producing such violent effects on the human body, those authors must have been mistaken.

About the same time, some experiments were also made by Mr. BROMFIELD, Surgeon to St. Georges and the Lock Hospitals; and as the one author seems to have written prejudiced in favour of the Medicine, so the other seems to have had his prejudices against it; for we find the experiments of the latter differing widely from those of the former. According to Mr. BROMFIELD, the symptoms were not only not relieved, but new ones were often brought on, and the patients health rather injured than benefited. In the several cases of inflammation, ulcers, &c. where this medicine had been given, it often occasioned pains in the sores, nausea, complaints of the head, temporary loss of sight, delirium, violent vomitings, gripings and purgings, and even death itself to one person under his own inspection; though the dose of the *garden Nightshade* did not exceed one grain at a time.

After giving this account, we shall leave it to our readers to determine with what propriety it is disregarded in the present practice; and would just remark, that from the apparently incontestible proofs of its deleterious qualities, persons cannot be too nice in selecting their Pot-herbs, particularly those who make a practice of gathering from Dunghills and Gardens, a species of *Orach*, by some called *Fat-ben*, by others *Lambs-quarters*, &c. as there is some distant similitude betwixt the two plants, and their places of growth are the same.

The figure and description above given, will enable any one to distinguish this plant. It is an annual, flowering in July, and producing its black berries in Autumn, which most probably are also poisonous. It varies in size as well as in the hairiness of its leaves; and the manner of the flowers growing from the middle of each joint is both singular and curious.



Chenopodium album

CHENOPODIUM ALBUM. WHITE GOOSEFOOT.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5 phyllus, 5 gonus.

Cor. o. *Sem.* 1, lenticulare, superum.

Raii. Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *album* foliis rhomboideo-triangularibus erosis postice integris, summis oblongis, racemis erectis. *Lin. Syst. Vegetab.* p. 216. *Spec. Plant.* p. 319. *Fl. Suecic.* p. 79.

CHENOPODIUM foliis subtus farinosis, rhomboideis, dentatis, superioribus integerrimis. *Haller. hist. n.* 1579.

CHENOPODIUM sylvestre opuli folio. *Vaillant, Paris.* 36. t. 7. fig. 1.

BLITUM Atriplex sylvestris dictum. *Raii Syn.* p. 154. Common wild Orache.

ATRIPLEX folio sinuato candicante. *Baub. pin.* 119.

ATRIPLEX sylvestris vulgarior sinuata major. *Parkinson.* 748.

ATRIPLEX vulgaris *Ger. emac.* 326. *Hudson. Fl. Angl.* p. 91. *Lightfoot. Flor. Scot.* p. 148.

RADIX annua, fibrosa, alba.	ROOT annual, fibrous and white.
CAULIS erectus, pedalis ad tripedalem, parum flexuosus, subangulosus et striatus, solidus, ramifusus, laevis, subinde purpurascens. RAMI alterni.	STALK upright, from one to three feet high, slightly crooked, somewhat angular and striated, solid, branched, smooth, sometimes of a purplish colour. BRANCHES alternate.
FOLIA rhomboideo-triangularia, erosa, postice integra, fig. 7. glauco-viridia, subtus praesertim farinâ copiose adspersa, summis oblongis minus profunde dentatis, aut etiam integris.	LEAVES of a triangular rhomboid figure, deeply and irregularly indented, intire behind, fig. 7. of a blueish green colour, plentifully covered particularly on the under side with a mealy powder, the uppermost leaves oblong, less deeply indented or even entire.
RACEMI axillares, erecti, spicati, floribus glomeratim dispositis.	RACEMI axillary, upright, forming a spike of flowers growing in little balls or clusters.
CALYX PERIANTHIUM pentaphyllum, persistens, foliolis ovatis, concavis, margine membranaceis, pulverulentis fig. 1. postice visum. auct.	CALYX: a PERIANTHIUM of five leaves: and continuing, the segments oval, hollow, membranous at the edges and powdery fig. 1. seen on the back part, and magnified.
COROLLA nulla.	COROLLA wanting.
STAMINA: FILAMENTA quinque, subulata, alba, calycis foliis opposita et paulo longiora; ANTHERÆ subrotundæ, didymæ, flavæ. fig. 2.	STAMINA: five white tapering FILAMENTS opposite to and a little longer than the leaves of the Calyx; ANTHERA composed of two roundish yellow cells. fig. 2.
PISTILLUM: GERMEN orbiculatum; fig. 3; STYLUS brevis, bipartitus; STIGMATA obtusa. fig. 4.	PISTILLUM: GERMEN orbicular; fig. 3; STYLE short, divided in two; STIGMATA obtuse. fig. 4.
SEMEN unicum, lenticulare, laeve, castaneum. fig. 6.	SEED one, lens-shaped, smooth and of a chestnut colour. fig. 6.

If any plants stand in need of figures to illustrate them, rather than descriptions, it is surely the different species of *Chenopodium* and *Atriplex*.

By figuring the outline of the leaf of any of these plants, we convey to the most transient observer, a perfect idea of its shape, without that ambiguity which must ever attend the description of leaves so irregularly formed, so variable, and so difficult of definition.

Besides figures, these plants seem also to require every other kind of elucidation; and if the altering and fixing distinct english names to different Genera, be in any case justifiable, it must be here, where three different Genera are called indiscriminately by the names of *Orach*, *Goosefoot*, and *Blite*. I have therefore presumed to call the Genus *CHENOPODIUM* *Goosefoot*, and propose confining the term *Orach* to *ATRIPLEX*, and *Amaranth* to *AMARANTHUS*; the term *Blite*, by which a species of the last mentioned Genus has been called, seems most applicable to the genus *BLITUM*.

The *Chenopodium album* is the most common with us of the whole genus; it occurs in every Garden, flourishes on every Dunghill, and abounds in most of our Corn-fields. To the Gardener it is a quick growing troublesome Weed; to the Farmer it is an injurious one, and generally introduced into his fields by that slovenly practice of suffering every kind of weed to feed on his Dung-heap.

Like the other species of this Genus, it varies exceedingly in its appearance when young, and when in its seedling state. Indeed all these plants require that the student should notice them from the earliest to the latest periods of their growth; or he never can attain a perfect knowledge of them.

It is whiter in its whole appearance than most of the *Chenopodiums*; the leaves being more generally covered with those pellucid particles resembling meal, which are characteristic of these Genera.

Mr. LIGHTFOOT noticed its being eaten as a Pot-herb in some parts of *Scotland*.

CHENOPODIUM VIRIDE. PURPLE-JOINTED GOOSEFOOT.

CHENOPODIUM. *Linnaei Gen. Pl.* PENTANDRIA DIGYNIA.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO, SEU STAMINEO, VEL APETALO POTIUS.

CHENOPODIUM *viride* foliis rhomboideis dentato-sinuatis, racemis ramosis subfoliatis. *Linnaei Syst. Vegetab.* p. 216. *Sp. Pl.* 319. *Flora Suecic.* p. 79.

CHENOPODIUM foliis rhomboideis, dentatis, subtus incanis. *Haller. hist. helv.* p. 267. n. 1580.

CHENOPODIUM *viride.* *Scopoli Fl. Carniol.* n. 280.

Hudson Fl. Angl. p. 91.

Lightfoot Flora Scot. p. 149. n. 6.

I have been cautious in referring to the synonyma of authors on this plant, seeing they differ so much in their opinions respecting it; and have rather wished that the plate here given, might serve as a reconciliatory reference. LINNÆUS and HALLER both seem to doubt its being a species distinct from the *album*, and it must be confessed there is a great similarity betwixt them; yet if my observations are just, there is every reason to consider them as two plants perfectly distinct.

They agree in this, that they are both annual plants, both grow in the same soil and situations, are nearly alike in their size and habit, and both flower about the same time; and yet they differ in many respects very essentially. That which in a more striking manner distinguishes the *viride* from the *album*, is the greener appearance of the whole plant, the bright red colour at the angles of the joints, which is constant, and the shape of the leaf, *fig. 1*, which is always much longer than that of the *album*. The *album* is loaded with an appearance of meal, which gives it its white colour; the *viride*, though not destitute of it, has it not in that profusion. When the seed are ripe, the tops of the stalks, in the *viride*, are more apt to hang down; the parts of the fructification, *fig. 1, 3, 4, 5*, are very similar, but smaller; and the calyx is not quite so much covered with little globules: the seeds of each differs very considerably, and affords a very curious and satisfactory distinction: in the *album* it is perfectly smooth, *glaber*; in the *viride* it is smaller, and reticulated with impressed dots, *reticulatus punctis impressis*, *fig. 6*.

Like some of the other species of this Genus it is eaten as a pot-herb.



Chenopodium viride

CHENOPODIUM POLYSPERMUM. ALL-SEED.

CHENOPODIUM *Linnaei* Gen. Pl. PENTANDRIA DIGYNIA.

Cal. 5-phyllus, 5-gonus. Cor. o. Sem. 1. lenticulare, superum.

Raii Syn. Gen. 5. HERBÆFLORE IMPERFECTO SEU STAMINEO (VEL APETALOPOTIUS.)

CHENOPODIUM *Polyspermum* foliis integerrimis ovatis, caule erecto, calycibus fructus patulis.

CHENOPODIUM *Polyspermum* foliis integerrimis ovatis, caule decumbente, cymis dichotomis aphyllis axillaribus. *Lin. Syst. Vegetab.* p. 216. *Spec. Plant.* p. 231. *Fl. Suecic.* p. 80.

CHENOPODIUM caule erecto, foliis ovatis integris. *Haller hist. helv.* p. 266.

CHENOPODIUM *Polyspermum*. *Scopoli Fl. Carniol.* n. 279.

BLITUM polyspermon a feminis copia. *Bauhin pin.* 118.

Gerard emac. 325.

Parkinson 753.

CHENOPODIUM *Betæ* folio. *Infl. R. H.* 506.

Raii Syn. p. 157. Upright Blite, or All-feed.

Lightfoot Fl. Scot. p. 150.

Hudson Fl. Angl. ed. 1. p. 92. ed. 2. p. 107.

RADIX annua, fibrosa, rubescens.

CAULIS plerumque suberectus, pedalis aut bipedalis, tetragonus, lævis; RAMI diffusi, longissimi, cauli fimiles

FOLIA petiolata, ovata, integerrima, lævia, margine venisque rubro sæpe tinctis.

FLORES axillares, subcymosi, Cymis dichotomis, aphyllis.

CALYX: PERIANTHIUM pentaphyllum, concavum, persistens, laciniis ovatis, viridibus, fig. 1.

COROLLA nulla.

STAMINA: FILAMENTA quinque basi latiora, alba, demisso polline Calyce longiora; ANTHERÆ subrotundæ, didymæ, flavæ, fig. 2.

PISTILLUM: GERMEN orbiculatum; STYLUS bipartitus, brevissimus; STIGMATA obtusa, fig. 3, 4.

PERICARPIUM nullum.

SEMEN orbiculatum, rufum, Calyci patulo innixum, non verò inclusum, fig. 5.

ROOT annual, fibrous, and reddish.

STALK in general nearly upright, about a foot or two in height, four-cornered and smooth; BRANCHES far extended, and like the stalk.

LEAVES standing on foot-stalks, oval, entire at the edges, smooth, the margin and veins often tinged with red.

FLOWERS axillary, forming a kind of Cyma, which divides into two at bottom, and is leafless.

CALYX: a PERIANTHIUM of five leaves, concave and permanent, the segments oval and green, fig. 1.

COROLLA wanting.

STAMINA: five FILAMENTS, broadest at the base, of a white colour; the Pollen being thrown out, they become longer than the Calyx: ANTHERÆ roundish, double, and yellow, fig. 2.

PISTILLUM: GERMEN orbicular: STYLE divided into two, very short: STIGMATA blunt, fig. 3, 4.

SEED-VESSEL wanting.

SEED orbicular, reddish brown, supported by the Calyx, which spreads open, and does not cover it, fig. 5.

ALTHOUGH there are many of the *Chenopodiums* which are not to be distinguished without much care and attention, yet some are very easily made out, of which number is the present species.

Its square stalk, which is generally of a bright red colour, its long extended branches, and its reddish seeds, which are numerous and strikingly visible, from being only in part covered with the calyx, render this plant sufficiently obvious.

It is not uncommon in gardens and on dunghills, flowers in July and August. To the gardener it is a troublesome annual, but scarcely injurious to the farmer.

Fish are said to be fond of it, *Lin. Fl. Suecic. ex Loes*, when thrown into fish ponds.



Chenopodium polyspermum



HYACINTHUS NON SCRIPTUS. ENGLISH HYACINTH.

HYACINTHUS *Linnaei Gen. Pl. HEXANDRIA MONOGYNIA.*

Cor. campanulata: pori 3 melliferi germinis.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

HYACINTHUS *non scriptus* corollis campanulatis, sexpartitis, apice revolutis. *Lin. Syst. Veget. p. 276.*

HYACINTHUS oblongo flore cœruleus major. *Baubin Pin. 43.*

HYACINTHUS anglicus. *Gerard. emac. 111.*

HYACINTHUS anglicus belgicus vel hispanicus. *Parkinson. Parad. 122. Raii Syn. p. 373, English Hyacinth, or Hare-bells.*

HYACINTHUS *non scriptus*, Hyacinth. *Dioscoridis. Dod. Ludg.*

Hudson. Fl. Angl. 123. ed. 2. p. 141. Lightfoot. Fl. Scot. p. 183.

RADIX: bulbus subrotundus, magnitudine nucis myristicæ, candidus, fucco viscido repletus, ex ima parte plurimas fibrillas albas dimittens.	ROOT a roundish bulb, the size of a nutmeg, of a white colour, and full of a viscid juice, sending down from the bottom numerous whitish fibres.
SCAPUS nudus, semipedalis aut pedalis, erectus, teres, lævis, solidus.	STALK naked, from half a foot to a foot in height, upright, round, smooth, and solid.
FOLIA quatuor, sex, interdum plura, scapo duplo breviora, semunciam lata, carinata, concava, lævia, nitida.	LEAVES four, six, sometimes more, twice as short as the stalk, about half an inch broad, keeled, hollow, smooth, and shining.
FLORES octo ad duodecem; sæpe plures, odorati, cœrulei aut violacei, rarius carnei aut albi, spicati, secundi, nutantes.	FLOWERS from eight to twelve, often more, sweet smelling, of a blue or violet colour, seldom flesh coloured or white, growing in a spike, all one way, and hanging down.
BRACTEÆ binæ, suberectæ, lanceolatæ, fig. 1.	FLORAL-LEAVES two to each flower, lanceolate, and nearly upright, fig. 1.
COROLLA subcylindracea, sexpartita, laciniis revolutis, fig. 2, 3.	COROLLA almost cylindrical, divided into six segments, the tips of which turn back, fig. 2, 3.
STAMINA: FILAMENTA sex, tria longiora tubum corollæ æquantia, inferne corollæ adnata, superne libera, setacea, alba: ANTHERÆ erectæ, incumbentes, subsagittatæ, flavescentes, fig. 4.	STAMINA: six FILAMENTS, the three longest of which equal the tube of the corolla, below attached to the corolla, above free from it, tapering, and whitish: ANTHERÆ upright, incumbent, somewhat arrow-shaped, of a yellowish colour, fig. 4.
PISTILLUM: GERMEN conicum, angulato-fulcatum, albidum: STYLUS corollæ brevior, apice violaceus: STIGMA obtusum, villosum, fig. 5.	PISTILLUM: GERMEN conical, angular and grooved, of a whitish colour: STYLE shorter than the corolla, at top of a blueish colour: STIGMA blunt and villous, fig. 5.
PERICARPIUM: CAPSULA triquetra, trilocularis, trivalvis, valvis ovatis, mucronatis, fig. 6.	SEED-VESSEL: a three-cornered CAPSULE, of three cavities and three valves, the valves oval, and terminating in a short point, fig. 6.
SEMINA plurima, violacea, nitida, subrotunda, fig. 7.	SEEDS numerous, of a fine blue colour, and roundish shape, with a polished surface, fig. 7.

THE *Hyacinth* is considered by the Dutch Florists, as the first of flowers, and as such ranks in their catalogues; in one of which, viz. that of Messrs. VOORHELM and SCHNEEVOGT, of *Haerlem*, for the year 1778, the *Gloria Solis* is marked at a 1000 guilders, eleven of which make one pound sterling.

The species which is the object of so much care and cultivation, and from whence such numerous and beautiful varieties are produced, is not our English Hyacinth, but the *Hyacinthus orientalis* of LINNÆUS: nevertheless, the present species is often to be met with in gardens, though in a state not much improved, being generally single, and retaining its character of drooping flowers, by which character it is obviously distinguished from a plant very similar to it, which is much more common in gardens, and flowers at the same time; a plant overlooked by LINNÆUS; but named by Mr. BANKS *Scilla campanulata*.

Our meadows, woods, and hedge-rows, are beautifully decorated with the blossoms of this plant in the spring months. Its seeds are not ripened till the end of the year; and those, on being sown, did not vegetate till the second year.

The term of *non scriptus* was applied to this plant by some of the earliest botanists, as may be seen in *Baubin's Pinax*, and *Ray's Hist. Plant.* and implies, that the flowers were not marked with any kind of character, which the Hyacinth of the ancients is supposed to have been, *vid. Bauh. Pin. p. 47. and Raii. Hist. p. 1155.*

The great uncertainty in which the ancients have left us, by their vague and imperfect descriptions, appears in a strong light, by what can be collected from their writings concerning the HYACINTH FLOWER. Since the revival of letters, commentators and botanists, have taken great pains to ascertain the plant which the ancient poets and naturalists called by this name; but with what success, may be easily gathered, when we find them severally fixing upon flowers of such very different appearances as the Martagon, Larkspur, and Iris, for the true Hyacinth.

The *Hyacinthine hair* of the antients, has also engaged the attention of the inquisitive; succeeding poets copying the expression from HOMER, who describes *Ulysses* thus, in POPE or BROOME's translation :

“ Back from his brows a length of hair unfurls,
“ His hyacinthine locks descend in wavy curls.
“ As by some artist, to whom Vulcan gives
“ His skill divine, a breathing statue lives;
“ By Pallas taught, he frames the wond'rous mould,
“ And o'er the silver pours the fusile gold;
“ So Pallas his heroic frame improves
“ With heav'nly bloom, and like a god he moves.”

This passage is thus imitated by MILTON, in his description of the person of *Adam*.

——“ His fair large front and eye sublime declar'd
“ Absolute rule; and hyacinthine locks
“ Round from his parted forelock manly hung
“ Clustering, but not beneath his shoulders broad.”

It is surprising that all the commentators should agree, in supposing HOMER means *black hair* by his allusion to the *Hyacinth*, when he elsewhere in the *Odyssey*, describes *Ulysses* with *yellow or golden hair* : “ *Ανθας δ' εκ κεφαλῆς ολέσω τριχας,*” which corresponds with the simile in the above mentioned quotation, where the poet compares the hair flowing on his hero's shoulders, to *gold inlaid on silver*. But perhaps HOMER did not intend to express any colour by alluding to the *Hyacinth* : this line in the original, “ *Ουλας ηκε κομας υακινθινο ανθει ομοιας,*” may be literally translated thus :

“ *She let down his hair curled like a Hyacinth flower.*”

The *Hyacinthus comosus*, and its variety the *Hyacinthus monstrosus*, or *feathered Hyacinth*, bear a strong resemblance to *curled hair*, and are natives of the warmer parts of Europe.

A desire to point out the connection between botany and polite literature, has occasionally induced us to venture on hints and remarks of this kind, which the learned reader will, we hope, look on with an indulgent eye, and remember that our attempts, such as they are, add little to the bulk, and nothing to the expence, of the work.

JUNCUS CAMPESTRIS. HAIRY FIELD RUSH.

JUNCUS *Linnaei* Gen. Pl. HEXANDRIA MONOGYNIA.

Cal. 6-phyllus. Cor. o. Capsula 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *campestris* foliis planis subpilosis, spicis sessilibus pedunculatisque. *Lin. Syst. Vegetab.* p. 280.
Sp. Pl. p. 468.

JUNCUS planifolius; spicis petiolatis, nutantibus; petalis aristatis. *Haller. hist.*

JUNCUS *campestris*. *Scopoli Fl. Carniol.* p. 258.

GRAMEN hirsutum capitulis Pfyllii. *Baubin. Pin.* 7.

GRAMEN exile hirsutum. *Gerard. emac.* 17.

GRAMEN nemorosum hirsutum minus angustifolium. *Parkinson.* 1185.

Raii Syn. p. 416, Small Hairy Wood-Grass.

Hudson. Fl. Angl. 132, ed. 2. p. 152.

Lightfoot Fl. Scot. 186.

RADIX perennis, crassitie pennæ coracis, sublignosa, fibris plurimis nigricantibus instructa, repens.

CULMUS simplex, palmaris, aut dodrantalis, erectus, foliosus, basi tumidus, teres, lævis, enodis.

FOLIA plana, pilosa, pilis e margine foliorum erumpentibus, acuta, apicibus sæpe rufis, membrana destituta, foliola duo erecta inæqualia spiculis subjecta culmum terminant.

SPICULÆ plerumque tres, subovata, fig. 1. florescente plantâ erecta, pedicellis inæqualibus infidentes, inferiore subsessili.

PEDUNCULI filiformes, e vaginâ ciliatâ prodeuntes.

FLORES decem aut duodecem circiter in singula spicula, sessiles.

CALYX: squamulæ plerumque quatuor, ovato-acutæ, membranaceæ, inæquales, foliolis calycinis multo breviores, singulum flosculum ambiunt, fig. 2.

CALYX proprius, hexaphyllus: foliolis lanceolato-acuminatis, patentibus, persistentibus, nitidis, carinatis, e fusco-purpureis, fig. 3.

COROLLA nulla.

STAMINA: FILAMENTA sex, subulata, brevissima: ANTHERÆ oblongæ, calycem æquantes, flavæ, quadrifurcata, bicuspidatæ, fig. 4, 5, demisso polline tortuosæ.

PISTILLUM: GERMEN viride, triquetrum, acuminatum: STYLUS brevis, filiformis: STIGMATA tria, longa, filiformia, flexuosa, villosa, fig. 6.

PERICARPIUM: CAPSULA testâ, triquetra, unilocularis, trivalvis, fig. 7, 8, 9.

SEMINA plerumque tria, subrotunda, olivacea, fig. 10, 11.

ROOT perennial, the size of a crow quill, somewhat woody, furnished with numerous blackish fibres, creeping.

STALK simple, from three to nine inches high, upright, leafy, somewhat enlarged at bottom, round, smooth, and without joints.

LEAVES flat, hairy, the hairs proceeding from the edges of the leaves, pointed, the tips often of a reddish brown colour, not furnished with any membrane: two small, upright, unequal leaves, placed under the spiculæ, terminate the stalk.

SPICULÆ, generally three, somewhat oval, fig. 1, upright when the plant is in flower, sitting on uneven foot-stalks, the lowermost spicula nearly sessile.

FLOWER-STALKS thread-shaped, proceeding from a small sheath edged with hairs.

FLOWERS about ten or twelve in each spicula, sessile.

CALYX: most commonly four small scales, of an oval pointed shape, membranous and uneven, and much shorter than the leaves of the true Calyx, surround the base of each floret, fig. 2.

CALYX: the proper Calyx is composed of six leaves, spear-shaped, with a long point, spreading, permanent, shining, keeled, of a brownish purple colour, fig. 3.

COROLLA wanting.

STAMINA: six FILAMENTS, tapering, and very short: ANTHERÆ oblong, the length of the Calyx, yellow, with four grooves, terminating in two points, fig. 4, 5; on shedding the Pollen becoming twisted.

PISTILLUM: GERMEN green, three-cornered, pointed: STYLE short, thread-shaped: STIGMATA three, long, thread-shaped, crooked, and villos, fig. 6.

SEED-VESSEL: a CAPSULE covered by the Calyx, three-cornered, of one cavity and three valves, fig. 7, 8, 9.

SEEDS usually three, of a roundish shape, and olive colour, fig. 10, 11.

THE above description is taken from the *Juncus campestris* when growing in its most usual state in dry pastures; in such situations it has seldom more than three or four spiculæ; in moister and richer soils, particularly on boggy ground, it will often have a much greater number: but though it varies in size and the number of its parts, it still continues very distinct from the *pilosus*, or *Hairy Wood Rush*.

It flowers in April and May, and ripens its seeds in June.

The hairs of this, and some of the other Junci, are of a very singular kind; a stranger to plants, would suppose that some animal had been robbed of its hair by rubbing on it.

The appearance of this plant indicates a dry, and consequently not very luxuriant pasturage.



Juncus campestris

Van der Schuer

RUMEX CRISPUS. CURLED DOCK.

RUMEX *Linnaei* Gen. Pl. HEXANDRIA TRIGYNIA.

Cal. 3-phyllus. Petala 3-conniventia. Sem. 1, triquetrum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

RUMEX *crispus* floribus hermaphroditis: valvulis integris graniferis, foliis lanceolatis undulatis acutis.

Linn. Syst. Vegetab. p. 284. Spec. Plant. p. 478. Fl. Suecic. p. 117.

LAPATHUM foliis crispis, imis ovatis, supremis lanceolatis, calycibus verrucosis. *Haller hist. n. 1589.*

LAPATHUM *crispum*. *Scopoli Fl. Carniol. p. 261.*

LAPATHUM folio acuto crispo. *Baubin. Pin. 115.*

LAPATHUM acuti varietas folio crispo. *Ger. emac. 387.*

LAPATHUM acutum minus. *Parkinson. 226.*

Raii Syn. p. 141. Sharp-pointed Dock with curled leaves.

Hudson Fl. Angl. p. 134.

Lightfoot Fl. Scot. 108.

RADIX perennis, flavesces, fusiformis, per ætatem superne ramosus evadit.	ROOT perennial, tapering, of a yellowish colour, becoming branched at top as it grows old.
CAULIS bipedalis aut tripedalis, erectus, striatus, lævis, ramosus.	STALK two or three feet high, upright, finely grooved, smooth, and branched.
FOLIA lanceolata, undulata, acuta, fubtus venosa, petiolis fulcatis.	LEAVES lanceolate, waved, pointed, underneath veiny, the foot-stalks grooved.
FLORES in spicas densissime glomerati, caulem penitus fere occultantes.	FLOWERS crouded very thickly together in spikes, and almost entirely hiding the stalk.
CALYX: PERIANTHIUM triphyllum, foliolis cymbiformibus, corollâ brevioribus, fig. 1.	CALYX: a PERIANTHIUM of three leaves, which are boat-shaped, and shorter than the Corolla, fig. 1.
COROLLA: PETALA tria, ovata, concava, demum conniventia, magna, granifera, venosa, reticulata, integra, SEMEN unicum, triquetrum, nitidum, pallide fuscum foventia, fig. 3, 7, 8, 9.	COROLLA: three oval, hollow PETALS, finally becoming closed, and large; each bearing a grain, veiny, reticulated, entire at the edges, including a three-cornered, shining, pale brown SEED, 3, 7, 8, 9.
STAMINA: FILAMENTA tria, capillaria, breviora: ANTHERÆ flavæ, fig. 3.	STAMINA: three very fine short FILAMENTS: ANTHERÆ yellow, fig. 3.
PISTILLUM: GERMEN triquetrum: STYLI tres, reflexi: STIGMATA laciniata, fig. 4, 5, 6.	PISTILLUM: GERMEN three-corner'd: STYLES three, turning back: STIGMATA jagged, fig. 4, 5, 6.

THE *Docks*, like the several species of *Goosefoot* and *Orach*, are with difficulty distinguished from each other.

The species here figured, is one of the most common, as well as the most injurious as a weed. It is found in almost every kind of soil and situation; as in wet meadows, by the sides of roads, and in cultivated ground, into which it is generally introduced with dung. I have remarked some Clover fields in which this plant formed nearly one half of the crop.

It may be distinguished from the other *Docks* by its *yellow root*, *waved leaves*, and large and numerous seed-coverings, which grow so thick as almost to hide the stalk, and which are larger than in most of the other *Docks*, of a roundish shape, with prominent veins, and an entire or slightly waved edge.

It flowers in June, July, and August.



Rumex crispus

Sansom Sculpt



Epilobium hirsutum

EPILOBIUM HIRSUTUM. LARGE-FLOWER'D WILLOW-HERB.

EPILOBIUM *Linnaei Gen. Pl.* OCTANDRIA MONOGYNIA.

Cal. 4-fidus. *Petala* 4. *Caps.* oblonga, infera. *Sem.* papposa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *hirsutum* foliis ovato-lanceolatis, femiamplexicaulibus, hirsutis; caule ramosissimo; radice repente.

EPILOBIUM *hirsutum* foliis oppositis lanceolatis ferratis decurrenti amplexicaulibus. *Lin. Syst. Vegetab.* p. 471. *Spec. Plant.* p. 494. *Flor. Suecic.* p. 123.

EPILOBIUM foliis femiamplexicaulibus, lanceolatis, hirsutis. *Haller. hist. helv.* p. 125.

CHAMÆNERION *hirsutum.* *Scopoli Fl. Carniol.* 270.

LYSIMACHIA filiquosa hirsuta magno flore. *Bauhin. pin.* 245.

LYSIMACHIA filiquosa. *Ger. emac.* 476.

Raii Syn. p. 311. Great hairy coddled Loofestripe or Willow-herb, called also Codlings and Cream.

Hudson. Fl. Angl. p. 141. 3. ed. 2. p. 162. 3.

Lightfoot. Fl. Scot. p. 197.

Oeder. Fl. Dan. ic. 326.

RADIX perennis, furculosa, fibris capillata, e cujus capite erumpunt germina majuscula, rubentia, in summâ tellure reptantia, quibus se late diffundit et propagat.

CAULIS tripedalis ad orgyalem, erectus, ramosissimus, teres, ad basin subtetragonus, hirsutus, purpurascens; RAMI cauli similes, adscendentes.

FOLIA ovato-lanceolata, argute denticulata, hirsuta, femiamplexicaulia, venosa, ramorum subtortuosa.

FLORES magni, speciosi, purpurei, subcampanulati, paululum nutantes.

CALYX: PERIANTHIUM superum, erectum, quadripartitum, basi angulosum, laciniis ovato-acutis, fundo villosis, fig. 1.

COROLLA: PETALA quatuor, obcordata, emarginata, purpurea, basi albida, calyce duplo longiora, fig. 2.

STAMINA: FILAMENTA octo, quorum quatuor longiora, alba, subulata: ANTHERÆ oblongæ, biloculares, flavescens, fig. 3.

PISTILLUM: GERMEN oblongum, villosum, inferum, tetragono-fulcatum, glandulis minimis coronatum: STYLUS filiformis, declinatus, Stamina longior: STIGMA crassum, quadrifidum, laciniis revolutis, villosis, fig. 4, 5, 6.

PERICARPIUM: CAPSULA triuncialis, obtuse tetragona, fulcata, ut in germine glandulis terminata, leniter hirsuta, quadrilocularis, quadrivalvis.

SEMINA ovata, pallide fusca, plurima, papposa, lente visa hinc convexa, scabriuscula, illinc compresso-fulcata, RECEPTACULO tetragono, libero, flexili seriatim affixa, fig. 7.

ROOT perennial, full of shoots, with numerous fibres, sending off from the upper part stoles of a considerable thickness, which creeping under the surface of the ground, spread widely and propagate the plant.

STALK from three to six feet high, upright, very much branched, round, somewhat quadrangular at bottom, hirsute, and purplish: BRANCHES like the stalk, nearly upright.

LEAVES betwixt oval and lanceolate, finely toothed at the edges, hirsute, half embracing the stalk, veiny, those on the branches a little twisted.

FLOWERS large, showy, of a purple colour, somewhat bell-shaped, and hanging down a little.

CALYX: a PERIANTHIUM placed above the Germen, upright, angular at the base, deeply divided into four segments, which are oval and pointed, the bottom in the inside villous, fig. 1.

COROLLA: four PETALS inversely heart-shaped, emarginated, of a purple colour with a white base, and twice the length of the Calyx, fig. 2.

STAMINA: eight FILAMENTS, four of which are shorter than the others, white and tapering: ANTHERÆ oblong, bilocular, and yellowish, fig. 3.

PISTILLUM: GERMEN oblong, villous, placed below the Calyx, four-corner'd and grooved, crowned with very minute glands: STYLE filiform, hanging down, and longer than the Stamina: STIGMA thick, divided into four segments, which are villous and roll'd back, fig. 4, 5, 6.

SEED-VESSEL, a CAPSULE about three inches long, obtusely four cornered, and grooved, terminated as in the Germen with glands, slightly hirsute, having four cavities and four valves.

SEEDS oval, pale brown, numerous, downy, viewed with a magnifier on one side convex, and roughish, on the other, flattish and grooved, affixed in rows to a four-cornered, loose, flexible RECEPTACLE, fig. 7.

THE *Lyfimachia filiquosa hirsuta magno flore*, and the *Lyfimachia hirsuta parvo flore* of BAUHINE, are considered by LINNÆUS as the same species.

Mr. RAY, both in his *Historia Plantarum* and *Synopsis*, considers them as distinct species; and Mr. HUDSON, viewing them in the same light, gives a new name to the larger flowering one, calling it *ramosum*, and retains the name of *hirsutum* for the smaller flowering one: but as the larger flowering plant is the species which LINNÆUS has distinguished by the name of *hirsutum*, there appears more propriety in adopting his name for the species, and giving a new name to what he considers as the variety.

The species here figured, grows very commonly in and by the sides of wet ditches, ponds, &c. rising generally to the height of five feet.

It flowers in July and August.

A variety with a white flower sometimes occurs; and a sort with variegated leaves, is sold by the gardeners.

Having a creeping root, it is very apt to increase too much if not properly attended to. The leaves, when young, have a shining appearance; and if bruised, send forth an agreeable smell, whence its name of *Codlings and Cream*.

Is it not a plant deserving the notice of the Farmer? If cattle are found to eat it, either green or dried, may it not be cultivated to advantage in wet situations, where other useful plants will not grow?

EPILOBIUM VILLOSUM. HOARY WILLOW-HERB.

EPILOBIUM *Linnaei* Gen. Pl. OCTANDRIA MONOGYNIA.

Cal. 4-fidus. *Petala* 4. *Caps.* oblonga, infera. *Sem.* papposa.

Raii Syn. Gen. 21. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *villosum* foliis oblongo-lanceolatis, dentatis, pubescentibus, caule tereti villosi.

EPILOBIUM *hirsutum* foliis lanceolatis ferratis subdecurrentibus; inferioribus oppositis, caule subsimplici. *Hudson Fl. Angl. ed. 2. p. 162.*

LYSIMACHIA filiquosa hirsuta parvo flore. *C. Baubin. pin. 245. Prod. 116.*

LYSIMACHIA filiquosa hirsuta flore minore. *I. B. II. 906.*

LYSIMACHIA filiquosa sylvestris hirsuta. *Parkinson? Raii Hist. Pl. p. 861. Syn. ed. 3. p. 311.*

The lesser hairy coddled Loofestripe or Willow-herb, with small flowers.

Lightfoot. Fl. Scot. p. 198. var. hirsut.

RADIX perennis, fibrosa.

CAULIS pedalis ad tripedalem, simplex, aut ramosus pro loco natali, teres, *villosus*.

FOLIA oblongo-lanceolata, connata, non vero decurrentia, rare dentata, dentibus glandulosis, mollia, pubescentia, subtus albida, patentia, in locis ficcioribus sæpe erecta.

FLORES parvi, purpurei.

CALYX: PERIANTHIUM tetraphyllum, superum, foliolis ovato-lanceolatis, hirsutulis, *fig. 1.*

COROLLA: PETALA quatuor, obcordata, calyce duplo fere longiora, *fig. 2.*

STAMINA: FILAMENTA octo; subulata, alterna breviora: ANTHERÆ ovales, compressæ, obtusæ, *fig. 3.*

PISTILLUM: GERMEN cylindraceum, longissimum: STYLUS filiformis: STIGMA crassum, quadridum, laciniis vix vero revolutis, *fig. 4.*

PERICARPIUM: CAPSULA prælonga, rubescens.

SEMINA plurima, pappo coronata.

ROOT perennial and fibrous.

STALK from one to three feet high, simple or branched according to its place of growth, round, hoary, and purplish.

LEAVES oblong and lanceolate, uniting at bottom around the stalk, but not running down it, teeth at the edge few and glandular, soft, downy, underneath whitish, spreading, but in more dry situations frequently upright.

FLOWERS small and purple.

CALYX: a PERIANTHIUM of four leaves, placed above the Germen, oval, pointed, and slightly hirsute, *fig. 1.*

COROLLA: four PETALS inversely heart-shaped, almost twice the length of the Calyx, *fig. 2.*

STAMINA: eight FILAMENTS, tapering, the four alternate ones shortest: ANTHERÆ oval, flattened, and obtuse, *fig. 3.*

PISTILLUM: GERMEN cylindrical, very long: STYLE filiform: STIGMA thick, divided into four segments, which are scarcely rolled back, *fig. 4.*

SEED-VESSEL, a long CAPSULE, of a reddish colour.

SEEDS numerous, covered with a pappus or down.

IN three respects does this plant particularly, and invariably, differ from the *hirsutum*; of which, as hath before been observed, it is considered by LINNÆUS and other writers, as a variety only; viz. in its *bloffoms*, *root*, and *pubescence*; either of which would appear alone sufficient to constitute it a distinct species.

The bloffoms in the first place, are not in general more than one third as large; the root does not creep; and the stalk and leaves, are covered with numerous soft hairs, which give the whole plant a whitish or hoary appearance, that is particularly striking.

Besides these characters, the plant is also much smaller; and in general, is not so much branched. I have often gathered specimens of it not more than a foot in height, with a simple stalk; and have also frequently found it much higher, as well as much branched, when there was no reason to suppose the plant had received any injury, which Mr. HUDSON asserts is always the case, when the plant occurs in the latter state. The Calyx and Stigma, differ also very materially in the two plants.

It is very common with us on the banks of rivulets, and in watery places; and flowers in July and August.

No particular qualities are ascribed to it.



Epilobium villosum

Epilobium tetragonum. Square-Stalk'd Willow-Herb.

EPILOBIUM *Linnaei. Gen. Pl. OCTANDRIA MONOGYNIA.*

Cal. 4-fidus. Petala 4. Caps. oblonga, infera. Sem. papposa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *tetragonum* foliis lanceolatis denticulatis; caule tetragono; stigma integerrimo.

EPILOBIUM foliis lanceolatis denticulatis; imis oppositis, caule tetragono. *Lin. Syst. Vegetab. p. 297. Sp. Plant. 495.*

EPILOBIUM foliis lanceolatis, glabris, dentatis. *Haller. Hist. p. 426. n. 997.*

CHAMÆNERION *tetragonum. Scopoli. Flor. Carniol. p. 271. 454.*

LYSIMACHIA filiquosa glabra media five minor. *Gerard. emac. 479.*

LYSIMACHIA filiquosa glabra minor. *Baubin. Pin. 245. Raii. Syn. p. 311. 5, Middle smooth-leaved coddled Willow-herb, or Loofestriefe.*

Hudson Fl. Angl. ed. 1. p. 141. ed. 2. p. 162,

Lightfoot. Fl. Scot. p. 198.

RADIX perennis, fibrosa, fibris albidis, stolonibus quottannis reparata, non vero repens.

CAULIS erectus, superne valde ramosus, bipedalis, rigidus, inferne purpurascens, subtetragonus, laevis.

FOLIA subdecurrentia, unde caulis angulosus, inferiora lanceolata, superiora lineari-lanceolata, serrata, venosa, glabra.

FLORES parvi, purpurei.

CALYX: PERIANTHIUM quadripartitum, foliis lanceolato-acuminatis, pubescentibus, carinatis, apicibus rufis, fig. 1.

COROLLA: PETALA quatuor, purpurea, venis faturationibus saepe striata, calyce paulo longiora, emarginata, fig. 2.

STAMINA: FILAMENTA octo, quorum quatuor breviora: ANTHERÆ flavescentes, fig. 3.

PISTILLUM: GERMEN tetragonum, pubescens: STYLUS brevis, albus: STIGMA crassum, album, integerrimum, fig. 4.

PERICARPIUM: CAPSULA longissima, fere triuncialis, pedunculis triplo brevioribus infidens.

SEMINA plurima, papposa.

ROOT perennial, fibrous, the fibres whitish, repaired yearly by new shoots, but not creeping.

STALK upright, at top much branched, about two feet high, stiff, at bottom purplish, smooth, and somewhat square.

LEAVES somewhat decurrent, whence the angular appearance of the stalk; the lower ones lanceolate; the upper ones narrower, serrated, veiny, and smooth.

FLOWERS small and purple.

CALYX: a PERIANTHIUM divided into four segments, which are narrow and tapering to a point, downy, the midrib projecting on the under side, the tips reddish, fig. 1.

COROLLA: four PETALS, purple, often streaked with veins of a deeper colour, somewhat longer than the calyx, with a notch at top, fig. 2.

STAMINA: eight FILAMENTS, four long and four short: ANTHERÆ yellowish, fig. 3.

PISTILLUM: GERMEN square, downy: STYLE short and white: STIGMA thick, white, and perfectly entire, fig. 4.

SEED-VESSEL a very long CAPSULE, approaching to three inches, sitting on a flower-stalk thrice as short.

SEEDS numerous and downy.

THE present species of *Epilobium*, takes its name of *tetragonum* from the apparent squareness of its stalk, which however is not so completely square as that of the *Hypericum quadrangulum*, but assumes rather an angular appearance, arising as in many other plants, from projecting lines running from the leaves down the stalk: this however is one of the most striking characters of this species: to which may be added the narrowness of its leaves, the uncommon length of its pods, and its undivided stigma.* These are the peculiarities by which this plant may readily be distinguished: but too much stress must not be laid on some of them.

The breadth of a leaf, its being placed on a peduncle, or fitting close to the stalk, are in general considered as excellent specific characters; but in this plant, as well as some others, we have a proof of their fallibility; the leaves being sometimes nearly as broad as those of the *montanum*, and placed on foot-stalks of a considerable length. When I first accidentally met with this variety, I was led to conclude it to be a distinct species; but a careful attention to it, afterwards convinced me it was only a variety.

The *Epilobium tetragonum* is no uncommon plant with us; but is generally to be met with in watery ditches, by the sides of roads; and where it does occur, it usually abounds. Among a variety of other places, I have observed it in the Lane leading from *Newington* to *Hornsey Wood*.

It flowers with the other *Willow-herbs*.

The farmer has no reason to complain of it: nor is it celebrated in the annals of physic.

*This character seems first to have been noticed by RAY: his words are *Stylus non ut in precedente quadrifidus est*, Hist. Pl. p. 261.



Epilobium tetragonum



Epilobium angustifolium

Janson Sculp

EPILOBIUM ANGUSTIFOLIUM. ROSEBAY WILLOW-HERB.

EPILOBIUM *Linnaei* Gen. Pl. OCTANDRIA MONOGYNIA.

Cal. 4-fidus. *Petala* 4. *Caps.* oblonga, infera. *Sem.* papposa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *angustifolium* foliis sparsis lineari-lanceolatis, floribus inæqualibus. *Linnaei* Syst. Vegetab. p. 296. *Sp. Pl.* 347.

EPILOBIUM flore difformi, foliis lanceolatis, transversum nervosis. *Haller* bist. n. 427.

CHAMÆNERION *angustifolium*. *Scopoli* Fl. Carn.

LYSIMACHIA speciosa, quibusdam onagra dicta filiquosa. *Baubin* bist. II. 906.

LYSIMACHIA Chamænerion dicta angustifolia. *Baubin* pin. 245. *Raii* Synop. 310. Rosebay Willow-herb.

Hudson Flor. Angl. p. 140.

Lightfoot Flor. Scot. p. 197.

Oeder Dan. ic. 289.

RADIX perennis, repens.

CAULIS erectus, tripedalis, ad orgyalem, ramosissimus, teres, pubescens, ramis alterne oppositis.

FOLIA lanceolata, alterna, subdecurrentia, glabra, margine minute remoteque dentatâ, nervo medio albido.

BRACTEÆ foliis similes.

FLORES purpurei, speciosi, subspicati, raro ultra quatuor aut quinque unâ in eâdem spicâ florescentes.

CALYX: PERIANTHIUM tetraphyllum, superum, foliolis lanceolatis, coloratis, sursum curvatis, fig. 1.

COROLLA: PETALA quatuor, purpurea, patentia, subrotunda, emarginata, unguibus angustis, fig. 2, duobus inferioribus remotioribus.

STAMINA: FILAMENTA octo, subæqualia, purpurascens, primum deflexa, demum suberecta, Pistillo breviora: ANTHERÆ rubræ, bilocularis: POLLEN viride, fig. 3, 4.

PISTILLUM: GERME inferum, oblongum, longitudine Styli, subtetragonum, glandula coronatum: STYLUS filiformis, albus, prope basin villosus: STIGMA quadrifidum, magnum, laciniis villosis revolutis, fig. 5, 6, 7.

PERICARIUM: CAPSULA cylindracea, incurvata, quadrilocularis, quadrivalvis.

SEMINA numerosa, striata, pappo coronata Receptaculo longissimo tetragono, libero, flexili affixa, fig. 8, 9.

ROOT perennial and creeping.

STALK upright, from three to six feet high, very much branched, round, and pubescent; the branches alternately opposite.

LEAVES lanceolate, alternate, running slightly down the stalk, smooth, the edge minutely and rarely indented, the midrib whitish.

FLORAL-LEAVES like those on the stalk.

FLOWERS purple, showy, growing in a kind of spike, seldom more than four or five flowering together on the same spike.

CALYX: PERIANTHIUM of four leaves, placed above the Calyx; the leaves lanceolate, coloured, and bending upwards.

COROLLA: four roundish PETALS of a purple colour, spreading, the claws narrow, fig. 2; the two lowermost somewhat remote from each other.

STAMINA: eight FILAMENTS, nearly of an equal length, of a purplish colour, at first bending down, finally becoming somewhat upright, shorter than the Pistillum: ANTHERÆ red, having two cavities: the POLLEN green, fig. 3, 4.

PISTILLUM: GERME below the Calyx, oblong, the length of the Style, slightly quadrangular, crowned by a gland: STYLE filiform, white, villous towards the bottom: STIGMA large, divided into four segments, which are villous, and turn back, fig. 5, 6, 7.

SEED-VESEL: a CAPSULE of a cylindrical form, somewhat incurvated, of four cavities and four valves.

SEEDS numerous, striated, crowned with a down, and affixed to a very long, loose, flexible Receptacle, fig. 8, 9.

IN the third edition of RAY's *Synopsis*, this plant is said to have been found growing wild near *Alton*, in *Hampshire*: in confirmation of this, I have myself found it growing in a wild unfrequented wood near the same place.

The showy appearance of its blossoms, has long since introduced it into our gardens; where, by means of its creeping roots, it is apt to increase more than is desirable: and from the refuse of gardens, we suspect those plants, which we have here and there noticed about town, have arisen. Mr. HUDSON, in his *Flora Anglica*, mentions its growing on *Maize Hill*, beyond *Greenwich*.

It continues in blossom through July, August, and September.

HALLER, from several authors, mentions, that the young shoots are eatable, although an infusion of the plant stupifies; that the pith also is eatable; which when dried, is boiled, whence it becomes sweet, and by a proper process, affords good beer; as also vinegar: that it is also added to the Cow Parsnep, to enrich the spirit which is prepared from that plant: that it likewise affords good fodder for cattle; and the down of the seeds, mixed with beavers hair, has been manufactured into several articles of cloathing.

It is too distinct to be mistaken for any of the other species; and is sometimes found with white flowers.

ERICA CINEREA. FINE LEAVED HEATH.

ERICA *Linnaei Gen. Pl.* OCTANDRIA MONOGYNIA.

Cal. 4-phyllus. *Cor.* 4-fida. *Filamenta* receptaculo inserta. *Antherae* bifidae.

Caps. 4-locularis.

Raii Syn. ARBORES ET FRUTICES.

ERICA *cinerea* foliis ternis glabris linearibus.

ERICA *cinerea* Antheris cristatis, Corollis ovatis, Stylo subexserto, foliis ternis, Stigmate capitato.

Linnaei Syst. Vegetab. p. 303.

ERICA *humilis*, cortice cinereo Arbuti flore. *Baubin* p. 486.

ERICA *virgata* five *VI Clusii*. *Parkinson* 1483.

ERICA *tenuifolia* *Gerard emac.* 1380. *Raii Syn.* p. 471, Fine leaved Heath. *Hudson Fl. Angl.* p. 144.

Oeder Dan. icon. 38.

RADIX perennis, lignosa.

CAULES suffruticosi, pedales, lignosi, cortice cinereo, ramosi, ramis oppositis.

FOLIA terna, linearia, patentia, supra glabra, nitida, transversim rugosa, infra canaliculata, saturate viridia, *fig.* 1, 2.

FLORES saturate purpurei, tactu sonori, spicati, spicis longis, verticillato-glomerati, terminalibus.

CALYX PERIANTHIUM tetraphyllum, foliolis lanceolatis, acuminatis, margine membranaceis, coloratis, persistentibus, foliolis duobus acutis et multo minoribus ad basin, *fig.* 3, 5.

COROLLA monopetala, ovata, ore quadrifido, laciniis obtusis, saepe emortuis, persistens, *fig.* 4.

STAMINA: FILAMENTA octo, subulata, alba, Corollâ breviora, receptaculo inserta; ANTHERÆ sub-sagittatae cohaerentes, biloculares, bicornes, cornibus laciniatis, ad basin rubris, biforaminosae, *fig.* 6, 7.

PISTILLUM: GERMEN cylindraceum, fulcatum; STYLUS subulatus, purpureus, Corollâ inclusus, Stamina longior; STIGMA subrotundum *fig.* 8, 9, 10.

PERICARPIUM CAPSULA subrotunda, quadrilocularis, quadrivalvis.

SEMINA plura, subovata, superficie reticulata, Tetralicis quadruplo majora.

ROOT perennial and woody.

STALKS shrubby, about a foot high, woody; the bark of an ash colour, branched; the branches opposite.

LEAVES growing three together, linear, spreading, above smooth and shining, transversely wrinkled; below hollow, of deep green colour, *fig.* 1, 2.

FLOWERS of a deep purple colour, sonorous when touched, growing in long, clustered, whirled spikes, which are terminal.

CALYX: a PERIANTHIUM of four leaves, of a pointed oval shape, membranous at the edge, coloured, continuing, with two pointed and much smaller leaves at the bottom of them, *fig.* 3, 5.

COROLLA of one Petal, oval, the mouth divided into four segments, which often occur withered, continuing, *fig.* 4.

STAMINA: eight FILAMENTS, tapering, white, shorter than the Corolla, inserted into the Receptacle: ANTHERÆ somewhat arrow shaped, adhering together, with two cavities open at top, and two little horns which are jagged and red at bottom, *fig.* 6, 7.

PISTILLUM: GERMEN cylindrical, grooved: STYLE tapering, purple, inclosed within the Corolla, but longer than the Stamina: STIGMA roundish, *fig.* 8, 9, 10.

SEED-VESSEL a roundish Capsule of four cavities and four valves.

SEEDS several, of an oval shape, the surface reticulated, four times larger than those of the cross leaved Heath.

THIS species of *Heath*, which produceth the most showy flowers, grows generally with the *cross-leaved* and *common Heath*; and flowers in July and August.

As it grows to a pretty considerable height, it is applicable to the same uses as the *common Heath*.

It is distinguished from the *cross-leaved Heath*, by the fineness, smoothness and deep green colour of its leaves: its flowers also grow more in spikes, and are of a deeper purple colour.



Erica cinerea



ADOXA MOSCHATELLINA. TUBEROUS MOSCHATEL.

ADOXA *Linnaei Gen. Pl.* OCTANDRIA TETRAGYNIA.

Cal. 2-fidus, inferus. *Cor.* 4-f. 5-fida, supera. *Bacca* 4-f. 5-locularis, calyce coalita.

Raii Syn. Gen. 16. HERBÆ BACCIFERÆ.

ADOXA *Moschatellina. Linnaei Syst. Vegetab. p.* 315. *Sp. Pl.* 527. *Fl. Suecic. p.* 132.

MOSCHATELLINA *Haller hist. p.* 429.

MOSCHATELLA *Adoxa. Scopoli. Fl. Carniol. p.* 281.

MOSCHATELLINA foliis fumarie bulbosæ. *I. B.* 111. 206.

RANUNCULUS nemorosus Moschatella dictus. *Parkinson* 226.

RANUNCULUS nemorum Moschatellina dictus. *Baubin. Pin.* 178.

RADIX CAVA minima viridi flore. *Gerard emac.* 1091. *Raii Syn. p.* 268, Tuberous Moschatel. *Hudson Fl. Angl. ed. 2. p.* 172.

Lightfoot Fl. Scot. p. 209.

Oeder Fl. Dan. ic. 139.

RADIX perennis, repens, dentata, alba.

FOLIA *radicalia* tria aut quatuor, tri-ternata, incisa, glabra, lobis ovatis, mucronatis, *caulina* duo brevius petiolata, opposita.

CAULIS folia superans, simplex, subtetragonus.

PEDUNCULUS quadrangularis, nudus, terminalis.

CAPITULUM tetragonum, ex quatuor floribus verticillatis, quinto terminali.

CALYX: PERIANTHIUM inferum, sæpius triangulare, planum, persistens, *fig.* 1.

COROLLA monopetala, rotata, plana, quadrifida, aut quinquefida, laciniis ovatis, acutis, calyce longioribus, *fig.* 2, 3, 4.

STAMINA: FILAMENTA octo aut decem, subulata, longitudine calycis: ANTHERÆ flavæ, planæ, orbiculatæ, *fig.* 5.

PISTILLUM: GERMEN subrotundum, calyce cinctum: STYLI plerumque quatuor, simplices, erecti, longitudine staminum, persistentes: STIGMATTA simplicia, *fig.* 6.

PERICARPIUM: BACCA globosa, viridis, quadrilocularis, cum calyce coalita, *fig.* 7.

SEMINA solitaria, ovata, compressa, *fig.* 8.

ROOT perennial, creeping, toothed, and of a white colour.

LEAVES: *radical* leaves commonly three or four, triply ternate, deeply cut in, smooth, and shining; the segments or lobes oval, with a short point: those of the stalk two in number, standing on shorter foot-stalks, and opposite.

STALK somewhat taller than the leaves, simple, and nearly square.

FLOWER-STALK square, naked, and terminating the stalk.

HEAD square, from the union of four of the flowers, and terminated by the fifth.

CALYX: a PERIANTHIUM placed beneath the germen, most commonly triangular, flat, and permanent, *fig.* 1.

COROLLA monopetalous, wheel-shaped, flat, divided into four or five segments, which are oval, pointed, and longer than the calyx, *fig.* 2, 3, 4.

STAMINA: eight or ten FILAMENTS, tapering, the length of the calyx: ANTHERÆ yellow, flat, and round, *fig.* 5.

PISTILLUM: GERMEN roundish, surrounded by the calyx: STYLES generally four, simple, upright, the length of the stamina, permanent: STIGMATTA simple, *fig.* 6.

SEED-VESSEL; a round BERRY of a green colour, having four cavities, and united to the calyx, *fig.* 7.

SEEDS single, oval, and flattened, *fig.* 8.

SOME of the antient botanists considered this singular plant as a *Fumaria*, others as a *Ranunculus*, from the appearance of its foliage; but an attention to its fructification, shews it to be a plant altogether *sui generis*.

It is one of the bacciferous plants of RAY, but its berries are rarely produced, and not to be discovered without a nice examination.

It varies much in the divisions of its Calyx, and Corolla, as well as in the number of its Stamina, even in the terminal flower.

In *Charlton Wood* we find it abundantly, flowering in April and May.

Chrysosplenium Oppositifolium. Common Golden Saxifrage.

CHRYSOSPENIUM *Linnaei Gen. Pl.* DECANDRIA DIGYNIA.

Cal. 4-f. 5-fidus, coloratus. *Cor.* o. *Caps.* 2-rostris, 1 locularis, polysperma.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHRYSOSPENIUM *oppositifolium* foliis oppositis. *Lin. Syst. Vegetab.* p. 342. *Sp. Pl.* 569.

CHRYSOSPENIUM foliis conjugatis. *Haller. Hist. No.* 1549.

SAXIFRAGA rotundifolia aurea. *Baubin. pin. p.* 309.

SAXIFRAGA aurea. *Ger. emac.* 841. *Parkinson* 425. *Raii Syn.* 158. Golden Saxifrage.

Hudson Fl. Angl. p. 156.

Oeder Fl. Dan. ic. 365.

Lightfoot Fl. Scot. p. 220.

RADICES perennes, fibrosæ, capillares.

CAULES basi repentes, quadrati, tenerrimi, erecti, palmares et ultra, pilis raris hirsuti; ramosi, superne dichotomi.

FOLIA opposita, connata, petiolata, patentia, subrotunda, pilis raris albidis hirsuta, dentato-crenata, subcarinosa, e flavo virescentia, subtus albida, suprema profundius crenata.

FLORES flavi, sessiles, fummis ramis infidentes, corymbose, fastigiati.

CALYX: PERIANTHIUM quadripartitum, rarius quinquepartitum, patens, flavum, persistens; laciniis ovatis, subæqualibus, *fig.* 1, 2.

COROLLA nulla.

STAMINA: FILAMENTO octo, (in supremo flore decem aliquando observantur,) subulata, erecta, longitudine fere calycis: ANTHERÆ didymæ, subrotundæ, flavæ, *fig.* 3, 4.

NECTARIUM squamula crenulata germen cingens, *fig.* 5.

PISTILLUM: GERMEN inferum, definens in STYLOS duos, subulatos, longitudine staminum: STIGMATA obtusa, *fig.* 6.

PERICARPIUM: CAPSULA birostris, bipartita, unilocularis, bivalvis, calyce viridi cincta.

SEMINA plurima, minuta, aurantiaca.

ROOTS fibrous, capillary, and perennial.

STALKS creeping at bottom, square, very tender, upright, about four inches in height, beset with a few stiffish hairs, branched, and forked at top.

LEAVES opposite, connate, standing on foot-stalks, spreading, of a roundish figure, beset with a few white stiffish hairs, indented or crenated at the edges, somewhat fleshy, of a yellowish green colour, but whitish underneath; the uppermost leaves more deeply notched.

FLOWERS yellow, sessile, fitting on the tops of the branches, forming a corymbus perfectly flat at top.

CALYX: a PERIANTHIUM divided into four segments, seldom into five, spreading, of a yellow colour, and continuing; the segments ovate, and nearly equal, *fig.* 1, 2.

COROLLA wanting.

STAMINA: eight FILAMENTS, (in the top flower ten are sometimes observable,) tapering, upright, almost the length of the calyx: ANTHERÆ double, roundish, and yellow, *fig.* 3, 4.

NECTARY a scale with a crenated edge, surrounding the germen, *fig.* 5.

PISTILLUM: GERMEN placed below the calyx, ending in two tapering STYLES, the length of the Stamina: STIGMATA blunt, *fig.* 6.

SEED-VESSEL; a CAPSULE having two beaks or horns, dividing in the middle, of one cavity, and two valves, surrounded by a green Calyx.

SEEDS numerous, minute, of an orange colour.

THE antient botanists shewed no small botanic discernment in considering this plant as a *Saxifraga*; and although in strict propriety it may be necessary to form a different genus of it, yet its affinity must be confessed to be very great.

The part which LINNÆUS calls the *Receptaculum angulatum*, appears to be more properly a kind of *Nectarium*; the Stamina proceed from beneath, not out of it.

As the terminal flower in this plant is rarely divided into more than four segments, and has only eight Stamina, it would perhaps be more proper to place it in the class OCTANDRIA.

It grows in great abundance in the boggy part of *Charlton Wood*; and flowers in April. The seeds ripen in May.

Authors are silent as to its useful or noxious qualities.



Chrysosplenium oppositifolium

Sanson sculp.

SAXIFRAGA TRIDACTYLITES. RUE-LEAVED SAXIFRAGE.

SAXIFRAGA *Linnaei* Gen. Pl. DECANDRIA DIGYNIA.

Cal. 5-partitus. *Cor.* 5-petala. *Caps.* 2-rostris, 1 locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *tridactylites* foliis caulinis cuneiformibus trifidis alternis, caule erecto ramoso. *Linnaei*

Syst. Vegetab. p. 344. *Sp. Pl.* p. 578. *Fl. Suecic.* p. 143.

SAXIFRAGA foliis petiolatis trilobatis caule erecto ramoso et folioso. *Haller. hist. herb.* p. 422. n. 986.

SAXIFRAGA *tridactylites*. *Scopoli. Fl. Carniol.* p. 237. n. 500.

SEDUM *tridactylites* tectorum. *Baubin. Pin.* 285.

PARONYCHIA rutaceo folio. *Gerard. emac.* 624.

PARONYCHIA foliis incis. *Parkinson.* 556.

SAXIFRAGA verna annua humilior. *I. R. H.* 252. *Raii Syn.* p. 354, Rue Witlow-grafs.

Hudson Fl. Angl. p. 159. ed. 2. 182.

Lightfoot Fl. Scot. p. 224.

RADIX annua, fibrosa.

CAULIS plerumque triuncialis, erectus, teres, ruberrimus, ramosus, pilis glanduliferis vestitus ut ut folia cum calycibus.

FOLIA ima integra, subrotunda, caulina sicut ascendant bipartita, tripartita aut quinquepartita, subcarnosa, rigida, patentia, petiolis foliis longioribus complanatis infidentia, suprema sessilia, bipartita aut simplicia, ovato-lanceolata, suberecta.

FLORES albi, erecti, parvi.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, breve, laciniis ovato-acutis, suberectis, *fig.* 1.

COROLLA: PETALA quinque exigua, laciniis calycis paulo longiora, ovata, obtusa, patentia, basi angusta, immaculata, *fig.* 2.

STAMINA: FILAMENTA decem, subulata: ANTHERÆ subrotundæ, flavæ, *fig.* 3.

PISTILLUM: GERMEN inferum, calyce obtectum, subrotundum, definens in STYLOS duos breves: STIGMATA villosa, *fig.* 4.

PERICARPIUM: CAPSULA subrotunda, bilocularis, birostris, ore aperto, ovato, integro.

SEMINA minima, nigricantia.

ROOT annual and fibrous.

STALK generally about three inches high, upright, round, of a bright red colour, branched and covered (as also the leaves and calyx) with hairs having glands at their extremities.

LEAVES: the bottom leaves entire and roundish; those of the stalk as they ascend, are deeply divided into two, three, or five segments, somewhat fleshy, rigid, and spreading, sitting on flattened foot-stalks longer than the leaves; the uppermost leaves sessile, divided into two segments, or entire, of an oval pointed shape, and nearly upright.

FLOWERS white, small, and upright.

CALYX: a PERIANTHIUM of one leaf, short, and divided into five segments, which are oval, pointed, and upright, *fig.* 1.

COROLLA: five small PETALS, a little longer than the segments of the calyx, oval, blunt, and spreading, narrowed at bottom, and spotless, *fig.* 2.

STAMINA: ten FILAMENTS, tapering towards the top: ANTHERÆ roundish and yellow, *fig.* 3.

PISTILLUM: GERMEN placed below the calyx and covered by it, of a roundish shape, and terminating in two short STYLES: the STIGMATA villous, *fig.* 4.

SEED-VESSEL a roundish CAPSULE of two cavities and two beaks, the mouth oval, open, and entire.

SEEDS very minute, of a blackish brown colour.

IN the months of April and May, this little plant succeeds the *Draba verna*, and is no small ornament to the tops of our walls. It grows also on houses, and among rubbish.

It varies in size from one to six inches, or even more in particular situations: the larger it grows, the more branched it becomes, and the more numerous are the divisions of its leaves: on the contrary in its small state, the stalk is frequently simple, and the leaves undivided.

Its medical virtues, if any, are not sufficient to preserve it in the present practice.



Saxifraga Tridactylites

Saponaria officinalis



SAPONARIA OFFICINALIS. SOPEWORT.

SAPONARIA *Linn. Gen. Pl.* DECANDRIA DIGYNIA.

Cal. 1-phyllus, nudus. *Petala* 5, unguiculata. *Caps.* oblonga, 1-locularis.

Raii Syn. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAPONARIA *officinalis*, calycibus cylindricis foliis ovato-lanceolatis. *Lin. Syst. Vegetab.* p. 347. *Spec. Pl.* 584.

SAPONARIA foliis ovato-lanceolatis, trinerviis; floribus tubulosis, umbellatis. *Haller hist. helv.* n. 980.

LYCHNIS *officinalis*. *Scopoli. Fl. Carniol.* p. 303. n. 510.

SAPONARIA major lævis. *Baubin. pin.* 206.

SAPONARIA *Ger. emac.* 444.

SAPONARIA vulgaris. *Parkinson.* 641.

LYCHNIS Saponaria dicta. *Raii Syn.* p. 339. Common Sopewort. *Hudson Fl. Angl.* p. 339. *Oeder. Fl. Dan. icon.* 543.

RADIX perennis, cortice rubente tecta, profunde descendens, lateque reptans, gemmis vivacibus instructa, hinc tritici repentis æmulus, ex hortis difficillime extirpatur.

CAULES pedales et ultra, erecti, rigidi, teretes, sub-rubentes, geniculati, superne ramosi, ramis oppositis.

FOLIA ovato-lanceolata, connata, brachiatim opposita, glabra, trinervia, patentia.

FLORES terminales, subumbellati, carnei.

CALYX: PERIANTHIUM monophyllum, tubulosum, basi intropressum, scabriusculum, oblongum, quinquedentatum, *fig.* 1.

COROLLA: PETALA quinque; ungues angusti, angulati, calyce paulo longiores, *fig.* 3, 4; limbus planus, obcordatus, basi bidentatus, *fig.* 3.

STAMINA: FILAMENTA decem, subulata, longitudine tubi corollæ, alterna unguibus petalorum inserta: ANTHERÆ oblongæ, pallidæ, *fig.* 5.

PISTILLUM: GERMEN oblongum, teretiusculum, transverse rugosum, viride: STYLI duo, subulati, albi: STIGMATA simplicia, *fig.* 6, 7, 8.

PERICARPIUM: CAPSULA oblonga, unilocularis, longitudine calycis, ventricosa, calyce tecta, ore quadridentato, *fig.* 9.

SEMINA plurima, nigricantia, reniformia, superficie granulata, *fig.* 10, 11.

ROOT perennial, covered with a reddish coloured bark, striking deep into the ground, and spreading wide, furnished with living buds, whence, like Couch-Grass, it is with the greatest difficulty rooted out of gardens.

STALKS a foot or more in height, upright, rigid, round, of a reddish colour, jointed, at top branched, the branches opposite.

LEAVES of an oval pointed shape, connate, alternately opposite, smooth, with three ribs, and spreading.

FLOWERS terminal, forming a kind of umbell, flesh coloured.

CALYX: a PERIANTHIUM of one leaf, tubular, pressed in at the base, roughish, oblong, with five teeth, *fig.* 1.

COROLLA: five PETALS, the claws narrow, angular, a little longer than the Calyx, *fig.* 3, 4; the limb flat, inversely heart-shaped, furnished at bottom with two little teeth, *fig.* 3.

STAMINA: ten FILAMENTS, tapering, the length of the tube of the Corolla; the alternate ones inserted into the claws of the petals: ANTHERÆ oblong, of a pale colour, *fig.* 5.

PISTILLUM: GERMEN oblong, roundish, transversely wrinkled, and green: STYLES two, tapering, and white; STIGMATA simple, *fig.* 6, 7, 8.

SEED-VESSEL: an oblong CAPSULE of one cavity, the length of the Calyx, bellying out, covered with the Calyx; the mouth having four teeth, *fig.* 9.

SEEDS numerous, blackish, kidney shaped, the surface granulated, *fig.* 10, 11.

The name of *Sopewort* has been given to this plant, from its answering in a considerable degree, the purposes of soap, forming like it, a lather with water, and taking out spots of grease, &c. from cloth in the same manner; whence it has also been called the *Fullers-herb*.

Some botanists are ready to doubt whether this herb be a native of Great Britain; but the testimonies of GERARD and RAY, appear sufficient to confirm it as such. Being often cultivated in gardens, on account of its beauty, it is no doubt often found among the *refuse of gardens*; and the plants which we have here and there met with in a few places about town, may probably have been of this kind.

It is said naturally to grow in moist situations; and flowers during the months of July, August and September.

There are several varieties of it cultivated in the gardens, from the perfectly white to the deep purple blossom'd, both single and double; as also that singular variety the *Saponaria concava anglica* of BAUHINE and MORISON, in which the leaves surround the stalk, and the blossom becomes monopetalous, but generally split, and destitute of the other parts of the fructification; found originally by GERARD, in a small grove of a wood called the *Spiney*, near *Lichbarrow*, in *Northamptonshire*; where, according to the testimony of MORTON, *hist. nat. agr. North.* it is no longer to be found; and which variety appears more like a *lufus naturæ*, as RAY considers it, than a mule plant, produced betwixt a Gentian and the Sopewort, as LINNÆUS first suggested.

All these varieties are easily cultivated: indeed much care is required, that they do not spread too much in the garden.

A decoction of the dried herb, does not form a lather so well as that of the fresh herb. A decoction of the dried root, makes a lather exactly like a solution of soap, but not so slippery; *Berg. Mat. Med.*

Grease and dirt were washed out with it, but not stains; *idem.*

The root tasted not bitter, but sweet; afterwards warm and biting in the throat; *Rutty Mat. Med.*

The taste of the leaves bitter, mucilaginous, slightly austere, and acrid, and if chewed long, quite acrid: the decoction also bitter, and austere; but not changed by vitriol of iron; *idem.*

The watery infusion of the dried herb, suddenly became of a blackish green colour, by the addition of vitriol of iron; but not the infusion of the root; *Bergius.*

In baths and lotions, it has been made use of to cleanse and beautify the skin; *idem.*

Internally the decoction of the whole herb is sudorific, and promotes the menses; *idem.*

If the decoction be very strong, it proves purgative; *idem, ex Mangeto.*

The leaves and root are made use of in the asthma: half a dram of the root taken with honey, promotes expectoration; *idem.*

In the jaundice, chronic diseases, and obstructions of the viscera, it has been recommended by BOERHAVE; *Haller hist. helv.*

By others it has been recommended in venereal and scrophulous diseases, particularly in the former by STAHL, who deemed it superior to Sarsaparilla; *Newman's Chem. by Lewis.*



Stellaria Holosteal



STELLARIA HOLOSTEA. THE GREATER STICHWORT

STELLARIA *Linnaei Gen. Pl.* DECANDRIA TRIGYNIA.

Cal. 5-phyllus, patens. *Petal.* 5. bipartita. *Caps.* 1-locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

STELLARIA *Holostea* foliis lanceolatis ferrulatis, petalis bifidis. *Lin. Syst. Vegetab. p.* 352. *Fl.*

Succica. p. 150.

ALSINE foliis gramineis ciliatis. *Haller hist. No.* 884.

STELLARIA *Holostea. Scopoli Fl. Carniol. p.* 314.

CARYOPHYLLUS *holosteus arvensis glaber flore majore. Baubin pin.* 210.

GRAMEN *leucanthemum. Gerard emac.* 47. *Parkinson. 1325. Raii Syn.* 346, The Greater Stichwort.

Hudson Fl. Angl. p. 166.

RADIX tenui et infirma radícula, fummo cespite geniculata reptat, demissis tamen altius fibris.	ROOT weak, slender and jointed, creeps on the surface of the ground, sending down fibres to a considerable distance.
CAULES plures, dense nascuntur, erecti, pedales, quadrati, geniculati, scabriusculi, fragiles, basi pertenués.	STALKS several, growing thickly together, upright, a foot high, square, jointed, roughish, brittle, very slender at bottom.
FOLIA lanceolato-acuminata, subconnata, rigidula, inferne carinata, ferrulata, seu potius fetis rigidiusculis ciliata, superiora ascendentia, marginibus revolutis, e cœruleo-virescentia, inferiora crebriora, breviora, deorsum flexa, flava.	LEAVES narrow and pointed, at their bases slightly uniting, somewhat stiff, underneath keel-shaped, serrated at the edges, or rather edged with very fine stiff hairs or bristles; the upper leaves growing somewhat upright, the edges turning back, of a bluish green colour; the lower leaves more numerous, shorter, bending back, and of a yellow colour.
FLORES albi, longis petiolis scabriusculis infidentes, e dichotomia caulis prodeuntes.	FLOWERS white, standing on long rough foot-stalks, and proceeding from the forked division of the stalk.
CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-lanceolatis, concavis, marginatis, lævibus, patentibus, persistentibus, fig. 1.	CALYX: a PERIANTHIUM of five leaves, of an oval pointed shape, hollow, edged, smooth, spreading and continuing, fig. 1.
COROLLA: PETALA quinque, magna, bipartita, obcordata, alba, nervosa, basi virescentia, patentia, fig. 2.	COROLLA: five white PETALS, large, divided at top, heart-shaped, rib'd, green at bottom, spreading, fig. 2.
STAMINA: FILAMENTA decem, alba, subulata, corollâ breviora, alterna glandulâ flavescenti ad basin instructa: ANTHERÆ flavæ, oblongæ, infidentes, fig. 3.	STAMINA: ten white FILAMENTS, tapering, shorter than the corolla, the alternate ones furnished at bottom with a yellowish gland: ANTHERÆ yellow, oblong, fitting on the filaments, fig. 3.
PISTILLUM: GERMEN subrotundum: STYLI tres, filiformes patentés: STIGMATA obtusa, fig. 4.	PISTILLUM: GERMEN roundish: STYLES three, thread-shaped, spreading: STIGMATA bluntish, fig. 4.
PERICARPIUM: CAPSULA subrotunda, membranacea, unilocularis, sexvalvis, fig. 6.	SEED-VESSEL a roundish membranous CAPSULE, of one cavity and six valves, fig. 6.
SEMINA plerumque quinque aut sex majuscula, aurantiaca, reniformia, pulchre crenulata, fig. 7.	SEEDS for the most part five or six, largeish, of a deep orange colour and beautifully notched, fig. 7.

THE *Stellaria Holostea* grows very common with us, and with its white delicate blossoms enlivens our woods and banks early in the Summer. Its seeds are very beautiful and like the *Chickweed*, but larger.

A very pretty Moth, called by the Aurelians the *least Yellow Underwing*, whose history is unknown, is by them frequently caught hovering over the flowers of this plant when the sun shines strong.



Oxalis acetosella

OXALIS ACETOSELLA. WOOD-SORREL.

OXALIS *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* unguibus connexa. *Caps.* angulis dehiscens, 5-gona.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

OXALIS *Acetofella* scapo unifloro, foliis ternatis obcordatis, radice dentata. *Linnaei. Syst. Vegetab.* p. 360.

Sp. Pl. p. 620. *Fl. Suecic.* n. 406.

OXYS scapo unifloro, foliis ternatis, radice squamoso-articulata. *Haller. hist.* p. 402.

OXYS *Acetofella.* *Scopoli Fl. Carniol.* n. 561.

TRIFOLIUM acetosum vulgare. *Bauhin. pin.* 330. *Parkinson.* 746.

OXYS alba. *Ger. emac.* 1201.

ACETOSELLA et Lujula feu Alleluja *Offic.* *Raii Syn.* p. *281, Wood-Sorrel.

Hudson. Fl. Angl. p. 173.

Lightfoot. Fl. Scot. p. 238.

RADIX perennis, horizontalis, squamoso-dentata, ruberrima.

FOLIA ternata, obcordata, ex flavo-virescentia, subtus sæpe purpurea, pilis raris adspersa, petiolis longis insidentia.

PETIOLI palmares, erectiusculi, teneri, e bulbillo vaginante prodeuntes, ad basin ruberrimi, teretes, superne ad unum latus sulcati.

FLORES albi aut carnei, venis rubris eleganter striati.

SCAPI uniflori, longitudine foliorum, bractæis duabus ovato-acutis vaginantibus prope apicem instructi.

CALYX: PERIANTHIUM quinquepartitum, breve, persistens, maculis purpureis sæpe notatum, laciniis obtusiusculis margine membranaceis, *fig. 1.*

COROLLA: PETALA quinque, unguibus paululum incurvatis receptaculo affixa, et paulo supra ungues coherentia, obtusa, subcrenata, basi flavedine tincta, *fig. 2.*

STAMINA: FILAMENTA decem, erecta, alba, quinque exteriora breviora, *fig. 3, 4*; ANTHERÆ flavescens, biloculares, *fig. 5.*

PISTILLUM: GERMEN quinquangulare, viride: STYLI quinque capillares, staminibus paulo longiores: STIGMATA obtusa, *fig. 6, 7.*

PERICARPIUM: CAPSULA subovata, pentagona, maculata, quinquelocularis, angulis longitudinaliter dehiscentibus, *fig. 8, 8.*

SEMINA: tria in singulo loculamento, cordata, per longitudinem striata, utrinque convexa, rufa, ARILLO nitido albo elastico inclusa, quo disrupto ejiciuntur, *fig. 9, 9.*

ROOT perennial, horizontal, scaly, and of a bright red colour.

LEAVES growing three together, inversely heart-shaped, of a yellowish green colour, frequently purple underneath, beset with a few hairs, and sitting on long foot-stalks.

LEAF-STALKS about three inches long, nearly upright, tender, proceeding from a little bulb which forms a kind of sheath to it; at bottom very red and round; the upper part grooved on one side.

FLOWERS white or flesh-coloured, and elegantly streaked with red veins.

FLOWER-STALK, supporting a single blossom, the length of the leaves, furnished near the top with two oval pointed Bractææ, which partly surround it.

CALYX: a PERIANTHIUM deeply divided into five segments, short and permanent, often spotted with purple; the segments bluntish, and membranous at the edges, *fig. 1.*

COROLLA: five PETALS, affixed to the receptacle by the claws, which bend a little inward, just above the claws adhering together, blunt, slightly crenated, and tinged at bottom with yellow, *fig. 2.*

STAMINA: ten FILAMENTS, upright and white, the five exterior ones shortest, *fig. 3, 4*; ANTHERÆ yellowish, and bilocular, *fig. 5.*

PISTILLUM: a GERMEN, four corner'd and green: STYLES five, very slender, and a little longer than the Stamina: STIGMATA blunt, *fig. 6, 7.*

SEED-VESSEL: a CAPSULE somewhat oval, five cornered, spotted, with five cavities, the angles bursting longitudinally, *fig. 8, 8.*

SEEDS: three in each cavity, heart-shaped, and grooved longitudinally, convex on both sides, of a bright reddish brown colour, and inclosed within a shining white elastic ARILLUS, which bursting they are thrown out, *fig. 9, 9.*

IN this little plant, there is a delicacy of structure superior to what we observe in most: there are some circumstances also in the oeconomy of the plant not less worthy our attention; and which, I believe, have not hitherto been noticed. The first of these is the same process, with respect to the plants feeding, which we observe in the Violets. If this plant be attentively observed, it will be found to continue producing seed-vessels and seeds, during the greatest part of the summer, without any appearance of expanded blossoms, which are only observable at one particular season of the year. As soon as the plant has done flowering, the flower-stalk, as in many other plants, bends down; and when the seed is ripe, again becomes upright. The second is, if these seed-vessels, when ripe, are slightly pressed, they open at the angles, and the seeds are thrown out at the apertures; but not from any elasticity in the capsule itself, which continues unchanged: but the cause of their propulsion is a strong white shining arillus, which covers the seed, and which bursting, by its elasticity throws the seeds to a considerable distance.

There are but few woods about us in which the *Wood-Sorrel* does not occur. It will not grow in a garden unless it has shade.

April and May are the months in which it flowers.

It is said to vary with blueish and purple-coloured blossoms.

The leaves in wet weather, are expanded; but in dry weather they droop; *Linnaei Fl. Suecic.* They are also said by some authors, to manifest a degree of sensibility on being struck. Possessing a very grateful acid taste, superior to common Sorrel, they have been used as an antileptic medicine, in malignant fevers, the scurvy, and all those diseases in which acids are indicated. The only form at present in use, is a conserve of the leaves: but the syrup, infusion, and juice of the leaves, and the leaves themselves, have been used indifferently.

The essential salt, extracted from it by chrysalization, is made use of for taking out iron moulds and spots of ink from linen: for this purpose, the stained part is dipped in water, sprinkled with a little of the powdered salt, then rubbed on a pewter plate, after which the spot is washed out with warm water; *Newman's Chem. by Lewis.*

Twenty pounds of fresh Sorrel leaves yielded six pounds of juice; from which were obtained two ounces, two drams, and one scruple of chrysaline salt; *ibid.*

According to experiments made by *Dr. Lobb*, a piece of human calculus was dissolved in the juice of this plant in nine days; *Rutty's Mat. Med.*

LYCHNIS DIOICA FLORE RUBRO. RED CAMPION.

LYCHNIS *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

hæc species vero dioica est.

Cal. 1-phyllus, oblongus, lævis. *Petala* 5 unguiculata. *Limbo* fub bifido.

Caps. 5-locularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LYCHNIS *dioica* floribus dioicis. *Linnaei Syft. Vegetab.* p. 362. *Fl. Suecic.* p. 156. *Sp. Pl.* p. 626.

LYCHNIS floribus sexu distinctis. *Haller. hist.* n. 923.

LYCHNIS *dioica.* *Scopoli Fl. Carniol.* n. 530.

LYCHNIS fylvestris five aquatica purpurea simplex. *Baubin pin.* 204.

LYCHNIS fylvestris flore rubro. *Parkinson.* 631.

LYCHNIS fylvestris rubello flore. *Gerard emac.* 469. *Raii Syn.* 339, Red Flowered Wild Champion.

Hudson Fl. Angl. 174.

RADIX perennis, minimi digiti crassitudine, alba, fapore subacri et amaro, fibris multis donato.

CAULES ex una radice plures, erecti, pedales, aut tripedales etiam, teretes, hirsuti, geniculati, purpurei, geniculis incrassatis, ramosi, ramis superioribus dichotomis.

FOLIA opposita, connata, ovato-acuminata, hirsuta, subnervosa.

CALYX: PERIANTHIUM monophyllum, tubulosum, hirsutum, striatum, purpureum, quinquedentatum, persistens, *fig.* 1; in femineâ turgidior, *fig.* 2.

COROLLA: PETALA quinque obcordata, purpurea, patentia, *fig.* 3; ad basin laminæ, unguiculæ obtusæ, bifidæ aut quadrifidæ, *fig.* 4.

STAMINA: FILAMENTA decem subulata, alba, quorum quinque longiora: ANTHERÆ flavescentes, *fig.* 5.

PISTILLUM: GERMEN ovatum: Nectario ad basin cinctum, *fig.* 6: STYLI quinque longi: albi: villosi: STIGMATA simplicia, *fig.* 7.

PERICARPIUM: CAPSULA unilocularis, ore decedentato, *fig.* 8.

SEMINA plurima, cana, scabriuscula, *fig.* 9.

ROOT perennial, the thickness of the little finger, white, of a slightly acrid and bitter taste, furnished with numerous fibres.

STALKS several from one root, upright, from one to three feet high, round, hirsute, jointed, purple, the joints swelled, branched, the uppermost branches forked.

LEAVES opposite, connate, oval-pointed, hirsute, and slightly nervous.

CALYX: a PERIANTHIUM of one leaf, tubular, hairy, striated, purple, having five teeth, and continuing, *fig.* 1; in the female more turgid, *fig.* 2.

COROLLA: five purplish heart-shaped PETALS, spreading, *fig.* 3: at the bottom of the lamina or broad part of the petal, are two or four small upright white blunt leaves, or additional petals, *fig.* 4.

STAMINA: ten white tapering FILAMENTS, of which five are longer than the others: ANTHERÆ yellowish, *fig.* 5.

PISTILLUM: GERMEN oval, surrounded by a Nectarium at bottom, *fig.* 6: STYLES five, long and white: STIGMATA simple, *fig.* 7.

SEED-VESEL a CAPSULE of one cavity, the mouth having ten teeth, *fig.* 8.

SEEDS numerous, grey and rough, *fig.* 9.

THE *Lychnis* tribe in general produce both Stamina and Styles in the same flower; but in this species we see a remarkable instance of the capricious inconstancy of nature, who seems to spurn the fetters of systematic distinction, and laughs at mans attempt of subjecting her to particular rules; for here the Stamina and Styles grow on separate plants; yet they are placed by LINNÆUS in his Class *Decandria*. What could he have done in this case? had he placed it under *Monoecia*, he would have separated plants evidently of the same genus: still, however, it may be said, he would have made the investigation of the plant easier to the botanic student; nor would it have been the only instance where plants nearly similar are disunited, as in the *Anthoxanthum* and *Holeus*, which evidently belong to the Grasses, yet are in separate Classes.

Exclusive of this singular variation with regard to the sex, there is a no less remarkable difference with respect to the colour of the flowers in different plants; some being constantly white and others as constantly red: this with some other circumstances relative to the two plants, has led me to suspect that they are not varieties but distinct species: cultivation and farther attention to them, will enable me to speak of this with more certainty.

The red sort here figured, grows in great abundance in moist shady ditches and by the sides of hedges, and sometimes in woods. It flowers in May and June.

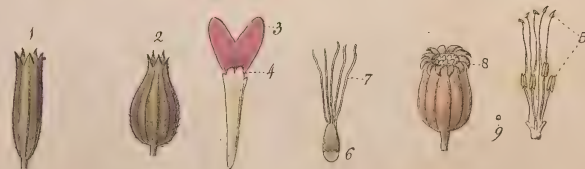
Both the white and red are cultivated when double, and called by the Gardeners about town *Batchelors Buttons*, a name which seems with more propriety to belong to some of the double flowering *Crowfoots*, as the *Ranunculus acris* and *aconitifolius*.

The Aurelians, or those who collect Insects of the Moth and Butterfly kind, frequently catch the *Sphinx porcellus*, or small *Elephant Hawk Moth*, on the flowers of this plant in the evening, and where it grows in abundance.

The seeds are liable to be eaten within the seed-vessel, in July and August, by a Caterpillar which produces a brownish coloured Moth, not figured, nor I believe hitherto noticed by any Entomologist.



Lychnis dioica?





Cerastium semidecandrum. Least Mouse-ear Chickweed.

CERASTIUM *Linnaei* Gen. Pl. DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. Petala bifida. Caps. unilocularis, apice dehiscens.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *semidecandrum* floribus pentandris, petalis emarginatis. *Lin. Syst. Vegetab. p. 362.*
Sp. Pl. 627. Fl. Suecic. n. 416.

MYOSOTIS caule simplici, foliis ovatis, hirsutis, tubis ternis. *Haller. hist. n. 894.*

CENTUNCULUS semidecander. *Scopoli. Fl. Carniol. n. 549.*

MYOSOTIS arvensis hirsuta minor. *Vaillant. tab. 30. fig. 2.*

CERASTIUM hirsutum minus parvo flore. *Raii Syn. ed. 3. t. xv. fig. 1. Hudson. ed. 2. p. 200. Lightf. p. 241.*

RADIX annua, fibrosa, albida.

CAULIS in locis siccissimis simplex, biuncialis, erectus; sæpius vero ramosus, aut pluribus cauliculis compositus, sicut in icone exprimitur; primo vere cauliculi supra muros aut terram expanduntur, tandem suberecti, triunciales, aut etiam semipedales fiunt, colore purpurascente, et pilis glanduliferis vestiti.

FOLIA radicalia oblongo-ovata, prope apicem dilatata, acuta, puncto rufo terminata, basi angustata, connata, leviuscula, medio per longitudinem fulcata, caulina ovata, villosa.

BRACTEÆ duæ, concavæ, viscosæ, membranâ marginatæ, sub singulâ dichotomiâ caulis.

FLORES albi, pedunculati, subcorymbofi.

PEDUNCULI villosi, ad basin paululum incrassati, florescente plantâ longitudine calycis, erecti; peractâ florescentiâ deorsum flectuntur, et duplo longiores evadunt, demum eriguntur.

CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, membranâ acuminatâ Corolla longiore terminatis, viscosis, *fig. 1, 2.*

COROLLA: PETALA quinque, oblonga, calyce breviora, apice acutè emarginata, sæpe erosa, *fig. 3, 4.*

STAMINA: FILAMENTA plerumque quinque, subinde sex, raro plura, alba, Corollâ breviora: ANTHERÆ subrotundæ, flavescentes, *fig. 5.*

PISTILLUM: GERMEN ovatum: STYLI quinque, capillares, albi, villosi: STIGMATA simplicia, *fig. 6, 7.*

PERICARPIUM: CAPSULA membranacea, scariofa, quinquenervis, ore decemdentato, *fig. 8.*

SEMINA plurima, minima, ovata, flavescentia, *fig. 9, 10.*

ROOT annual, fibrous, of a whitish colour.

STALK in very dry places is simple, upright, and about two inches high; but more commonly is branched, or composed of numerous small stalks, as expressed in the figure: these early in the spring, are expanded on the walls or earth, finally become nearly upright, three inches, or sometimes even six inches high, of a purplish colour, and covered with hairs having glands at their extremities.

LEAVES near the root of an oblong oval shape, dilated near the top, terminating in a sharp red point, narrower towards the base, and uniting around the stalk, nearly smooth, and grooved down the middle: those of the stalk oval and villous.

FLORAL-LEAVES two, hollow, viscous, and edged with a membrane, placed under each division of the stalk.

ELOWERS white, standing on foot-stalks, and forming a kind of Corymbus.

FLOWER-STALKS villous, and thickened a little at bottom, while the plant is in flower the length of the Calyx, and upright, the flowering over they are bent backward, and become twice as long, finally they again become upright.

CALYX: a PERIANTHIUM of five leaves, lanceolate, viscous, and terminated by a pointed membrane, which is longer than the Corolla, *fig. 1, 2.*

COROLLA: five PETALS, which are oblong, and shorter than the Calyx, sharply cut in at top, and often appearing jagged, *fig. 3, 4.*

STAMINA: FILAMENTS generally five, now and then six, seldom more, white, shorter than the Corolla: ANTHERÆ nearly round, of a yellowish colour, *fig. 5.*

PISTILLUM: GERMEN oval: STYLES five, very fine, white, and villous: STIGMATA simple, *fig. 6, 7.*

SEED-VESSEL, a membranous CAPSULE, sonorous when touched, having five ribs, the mouth opening with ten teeth, *fig. 8.*

SEEDS numerous, very minute, oval and yellowish, *fig. 9, 10.*

MUCH praise is due to the great LINNÆUS, for the accuracy with which he has described the more common *Cerastiums*, and particularly the present species. To Monsieur VAILLANT the public are also much indebted, for the accurate and elegant figures, which he has given of them in his *Flora Parisiensis*.

In the third edition of RAY's *Synopsis*, the *semidecandrum* is added by DILLENIUS, who has there given a figure of it, which, although expressive of the plant as it commonly grows on heaths, yet tends to mislead the student with an idea, that minuteness is its chief characteristic: the description also has a similar tendency. It says, that the stalks are not viscous, and that it flowers somewhat later than the *viscosum*; whereas in both, the stalks are evidently viscous towards the upper part; the *semidecandrum* also flowers equally early; and instead of being less branched, as is there asserted, it is in a common way more so. It is true that both species, when they grow in very barren places, (and in which this species seems chiefly to have been sought for,) have only a simple stalk, and often do not arise to the height of two inches.

The *semidecandrum* is a much more common plant than is generally imagined; and is distinguished, particularly when in blossom, from all the other *Cerastiums* with the greatest facility.

There is scarce a wall or heath around town, on which this plant may not be found in abundance; particularly about Hackney; as also under Greenwich Park Wall, facing Black-heath, as well as on the heath itself. It comes into blossom soon after the *Draba verna*, and, like that plant, soon disappears.

It may be distinguished from the *Cerastiums*, when in blossom, by having only five stamina, whence its name. I have sometimes found more; but this number is sufficiently constant to form a very good specific character. LINNÆUS remarks its having ten stamina, five of which produce no Antheræ: these I must confess never to have seen. SCOPOLI observes, that he always found it with ten stamina, and attributes the want of Antheræ in LINNÆUS's five, to the five exterior ones quickly losing their Antheræ. It is possible that in *Carniola*, this plant may occur with ten stamina; but here, like the *Alpine*, it certainly loses one half of them.

The petals form a more invariable character, being always shorter than the calyx, acutely cut in at top, as if a piece had been taken out with a pair of scissors, and frequently irregularly jagged or gnawed: they are also much broader than those of the *Cerastium viscosum*.

The calyx too is often of considerable use in determining this species, (as it may be observed when neither the stamina or petals are visible,) at least from the *vulgatum*, its leaves being very thickly covered with hairs, having glands at their extremities, *vid. fig. 1, 2.* which glands are altogether wanting in the *vulgatum*. The membrane also, which terminates the leaves of the calyx, is remarkably long in this species.

These circumstances, if attended to, together with the remarks to be hereafter made on the *Cerastium vulgatum*, will, it is hoped, enable the student to investigate these plants, and fix them with certainty.

No virtues are attributed to it: and it is too inconsiderable to be noxious in agriculture.



Cerastium semidecandrium



Cerastium vulgatum

Cerastium vulgatum. Common Mouse-ear - Chickweed.

CERASTIUM *Linnaei. Gen. Pl. DECANDRIA PENTAGYNIA.*

Calyx 5-phyllus. *Petala* bifida. *Caps.* unilocularis, apice dehiscens.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *vulgatum* foliis oblongo-ovatis, hirsutis, caulibus diffusis, hirsutie nudâ.

CERASTIUM *vulgatum* foliis ovatis, petalis calyci æqualibus, caulibus diffusis. *Lin. Syst. Vegetab. p.* 362.
Sp. Pl. p. 627. *Fl. Suecic. n.* 415.

MYOSOTIS foliis ovato lanceolatis, petalis calycis longitudine. *Haller. Hist. Helv. p.* 390. *n.* 893.

MYOSOTIS arvensis hirsuta, parvo flore albo. *Vaillant. Paris. 142. t.* 30. *f.* 1.

ALSINE hirsuta magno flore. *Baubin. pin.* 251.

AURICULA muris quorundam flore parvo, vasculo tenui longo. *I. B. III.* 359.

ALSINE hirsuta myosotis. *Adv.* 193. *Raii. Syn. p.* 349, Narrow-Leaved Mouse-ear Chickweed.

Hudson. Fl. Angl. p. 175. *ed. 2. p.* 200.

Lightfoot. Fl. Scot. p. 240.

RADIX perennis, fibrosa.

CAULES plurimi, diffusi, teretes, purpurascens, hirsuti, ramosi.

FOLIA *hirsuta*, inferiora oblongo-ovata, basi angustata, carinata, connata, superiora ovata, marginibus subrevolutis.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-lanceolatis, margine membranaceis, apice purpurascens, hirsutis, *hirsutie nudâ five glandulis destituta, fig. 1.*

COROLLA: PETALA quinque, alba, obtuse bifida, calyce plerumque longiora, basi flavescentia, *fig. 2.*

STAMINA: FILAMENTA decem, filiformia, corolla breviora; alterna breviora: ANTHERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERME ovatum: STYLI quinque, capillares, albi, ad basin sensim tenuiores: STIGMATA simplicia, *fig. 4.*

PERICARPIUM: CAPSULA ovato-cylindracea, membranacea, paululum recurvata, calyce duplo fere longior, ore decemdentato.

SEMINA plurima, flavescentia, ad lentem scabriuscula, *fig. 5, 6.*

ROOT perennial and fibrous.

STALKS numerous, spreading, round, purplish, hirsute, and branched.

LEAVES *hirsute*; the lowermost of an oblong oval shape, narrowed at the base, midrib projecting on the under side, uniting around the stalk; the uppermost leaves oval, the edges somewhat rolled back.

CALYX: a PERIANTHIUM of five leaves, which are oval and pointed, membranous at the edges, and purplish at top, *covered with hairs which have no glands at their extremities, fig. 1.*

COROLLA: five white PETALS, bluntly notched at top, generally longer than the calyx, yellowish at bottom, *fig. 2.*

STAMINA: ten FILAMENTS, thread-shaped, and shorter than the corolla; the alternate ones shortest; ANTHERÆ roundish, and yellow, *fig. 3.*

PISTILLUM: GERME roundish: STYLES five, very slender and white, gradually lessening to the bottom: STIGMATA simple, *fig. 4.*

SEED-VESSEL: a CAPSULE ovally-cylindrical, membranous, turning up a little, almost twice the length of the calyx, the mouth opening with ten teeth.

SEEDS numerous, yellowish, appearing roughish when magnified, *fig. 5, 6.*

THE *Cerastium vulgatum* is often confounded with the two species already figured in this work; viz. the *viscosum* and *semidecandrum*. The attentive botanist will, however, readily distinguish it; particularly when assisted by the following observations.

First, this species is certainly perennial; and although it has only a small fibrous root, it continues through the winter, and from the same root throws out new shoots; while the other two are strictly annual. Secondly, the hairs on the stalks, leaves, and calyx, are much longer and coarser, than in either of the other two; and what particularly deserves to be noticed, they are not terminated at the extremity by a viscous globule, a character alone sufficient to distinguish it.—And thirdly, it is not only a larger and more spreading plant, but also with respect to situation more universally common.

It is subject to many variations; sometimes being very hirsute, at other times but thinly covered with hairs; and it is said to have been found by DOODY quite smooth.† It differs in size from an inch to two feet. In the breadth of its leaves also, like the *Polygonum aviculare*, it varies very considerably. The blossoms likewise are subject to vary in size. In general, the stronger the plant the smaller the petals, and vice versa; hence by the size of its petals alone, it is sufficiently distinguished on heaths, where it frequently grows about two inches in height, and is often taken for the *semidecandrum*.

The name given to this plant by Monsieur VAILLANT, is certainly improper; the petals being often twice as large as either of the other two. There is one point also in which LINNÆUS's observation does not accord with ours: in comparing the leaves with those of the *viscosum*, he says they are *minus lanceolata magisque ovata*, the reverse of which is generally observable in our plant.

It comes fully into bloom about May; but may be found in blossom during the whole of the summer. It grows not only on walls, but also by the sides of roads, in meadows, and among rubbish. Like the other *Cerastiums*, it is not known to be particularly noxious in agriculture; nor has it any virtues to recommend it.

CERASTIUM VISCOSUM. BROAD-LEAVED MOUSE-EAR CHICKWEED.

CERASTIUM *Linnaei Gen. P.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* bifida. *Caps.* unilocularis apice dehiscens.

Rai Syn. Gen. 24. HERBÆ PENTAPETALA VASCULIFERÆ.

CERASTIUM *viscosum* erectum villoso-viscosum. *Linnaei Syst. Vegetab.* p. 362. *Fl. Suecic.* n. 414.

MYOSOTIS hirsuta et viscosa. *Haller hist.* n. 895.

MYOSOTIS hirsuta altera viscosa. *Vaill. Paris.* 142. t. 30. fig. 1.

ALSINE hirsuta altera viscosa. *C. Baubin. pin.* 251.

ALSINE viscosa. *Parkinson.* 768.

ALSINE hirsuta Myosotis latifolia præcocior. *Cat. angl.*

ALSINE Myosotis humilior et rotundo folio. *Merret. pin.* The Broader-leaved Mouse-ear Chickweed,

Raii Syn. p. 348. *Hudson. Fl. Angl. p.* 175.

RADIX annua,

CAULIS palmaris ad pedalem, basi ramosus, medius caulis erectus, laterales ascendentes, dichotomus, pilis glanduliferis vestitus, unde sub viscosus evadit.

FOLIA ovata, subconnata, villoso-viscosa, ad inferiorem partem caulis basi angustiora, e. flavo viscescentia.

FLORES in summitatibus caulium plantâ adhuc infantili arcte stipantur, ad quindecim aut plures.

CALYX PERIANTHIUM pentaphyllum, foliolis ovato-acuminatis, longitudine petalorum, apice purpurascens, viscoso-pilosis, fig. 1.

COROLLA: PETALA quinque alba, oblonga, angusta, basi villosa, apice bifida, fig. 2.

STAMINA: FILAMENTA decem, subulata, quorum quinque longiora, basi glandulâ instructa, fig. 3, 6.

PISTILLUM: GERMEN ovatum: STYLI quinque villosi germine breviores: STIGMATA obtusiuscula, fig. 4, 5.

PERICARPIUM: CAPSULA corniformis, ore decemdentato calyce dimidio longiore, fig. 7.

SEMINA plurima, flavescens, suborbiculata, crenulata, fig. 8, 9.

ROOT annual.

STALK from three inches to a foot in height, branched at bottom, the middle stalk upright, the side ones bending upward, forked at top, covered with numerous hairs, each of which is terminated by a gland, whence it becomes slightly viscid.

LEAVES oval, slightly connate, hoary with a little clammy, at the bottom of the stalk narrower at the base, of a yellowish green colour.

FLOWERS, while the plant is young, are closely crowded together on the tops of the stalks to the number of fifteen or more.

CALYX: a PERIANTHIUM of five leaves, which are of an oval pointed shape, the length of the petals, purplish at top, and covered with viscid hairs, fig. 1.

COROLLA: five white PETALS, oblong, narrow, at bottom villous, bifid at top, fig. 2.

STAMINA: ten FILAMENTS, tapering, of which five are longer than the others, and furnished at bottom with a small gland, fig. 3, 6.

PISTILLUM: GERMEN oval: STYLES five, villous, shorter than the germen: STIGMATA bluntish, fig. 4, 5.

SEED-VESSEL a CAPSULE, horn-shaped, twice the length of the calyx, the mouth furnished with ten teeth, fig. 7.

SEEDS several, yellowish, roundish, and notched, fig. 8, 9.

AMONG the plants which are with difficulty distinguished by the young Botanist, we may properly reckon three of our common *Cerastiums*, viz. the *viscosum*, *vulgatum*, and *semidecandrium*, as all of them have some similarity in their appearance, occur frequently in the same situations, and are subject to be much altered in their appearance, according to the soil and situation in which they grow.

The figure which is here given of the *viscosum*, represents that plant in its medium state; on walls it is found much smaller; in meadows it is found much larger; and in both these situations, as well as on dry banks and ant hills, it occurs very plentifully, and flowers in the months of April and May, being one of the earliest in bloom.

It is distinguished from the others by the upright manner of its growing, by its broad hoary leaves, the narrowness of its petals, and the crowded or clustered appearance of its flowers before they blow: its leaves also in general are of a paler colour than the rest.

It is not remarked for any particular use; neither is it noxious to the Farmer or Gardener.

LINNÆUS observes that the plant is liable to be much disfigured by a species of *Chermes*.



GEUM URBANUM. COMMON AVENS.

GEUM *Linnaei* Gen. Pl. ICOSANDRIA POLYGYNIA.

Cal. 10-fidus. *Petala* 5. *Sem.* arista geniculatâ.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

GEUM *urbanum* floribus erectis, fructibus globosis villosis: aristis uncinatis nudis, foliis lyratis.

Linnaei Syst. Vegetab. p. 399. *Sp. Pl.* p. 716. *Fl. Suecic.* p. 179.

GEUM foliis pinnatis, pinna ultimâ trilobata; floribus patulis, tubis aduncis. *Haller hist. n.* 1130.

CARYOPHYLLATA urbana. *Scopoli Fl. Carniol.* p. 364.

CARYOPHYLLATA vulgaris. *Baubin pin.* 321.

CARYOPHYLLATA *Gerard emac.* 995. *Parkinson* 136.

Raii Syn. Avens, Herb Bennet.

Hudson. Fl. Angl. p. 198.

Lightfoot Fl. Scot. p. 273.

RADIX perennis, fibrosa, fusca, sapore et odore aromatico Caryophyllorum.	ROOT perennial, fibrous, of a brown colour, with the aromatic taste and smell of Cloves.
CAULES plures, pedales aut bipedales, suberecti, parum flexuosi, subangulosi, hirsutuli, ramosi.	STALKS several, from one to two feet high, nearly upright, a little crooked, slightly angular, hairy, and branched.
FOLIA radicalia admodum variantia, plerumque vero pinnata, petiolata, vagina petiolorum ciliata, pinnâ extimâ magnâ, trilobatâ aut tripartitâ pinnis lateralibus paucis, parvis, inæqualibus, omnibus inciso-ferratis, venosis, hirsutulis, caulina tripartita aut terna.	LEAVES: radical leaves varying very much, most commonly pinnated, and standing on a foot-stalk, the sheath of which is edged with hairs, the outermost leaf or pinna large, divided a little way down the leaf, or nearly to the base; the lateral leaves few, small and unequal, all of them deeply serrated, veined, and hairy; the leaves of the stalk deeply divided into three segments, or entire leaves.
STIPULÆ duæ, magnæ, subrotundæ, foliis similes.	STIPULÆ two, large, of a roundish figure like the leaves.
PEDUNCULI solitarii, suberecti, teretes, hirsutuli.	FLOWER-STALKS single, nearly upright, round and hairy.
CALYX: PERIANTHIUM monophyllum, decemfidum, patens, laciniis alternis minimis, acutis, hirsutis, demum reflexis; laciniis majoribus interne villosis, margine crassis, fig. 1.	CALYX: a PERIANTHIUM of one leaf, divided into ten segments, and spreading; the alternate segments very minute, pointed, hirsute, finally turning back; the larger segments villous on the inside, and thick at the edge, fig. 1.
COROLLA: PETALA quinque rotunda, flava, longitudine calycis, remota, unguibus brevissimis, fig. 2.	COROLLA: five roundish yellow PETALS, the length of the Calyx, at a little distance from each other, having very short claws, fig. 2.
STAMINA: FILAMENTA plurima, flavescentia, subulata, calyci affixa, primum inflexa, demum erecta: ANTHERÆ subrotundæ, flavæ, demum fuscæ, fig. 3, 4.	STAMINA: FILAMENTS numerous, of a yellowish colour, tapering, affixed to the Calyx, at first bending inward, lastly becoming upright: ANTHERÆ roundish, of a yellow colour, finally brown, fig. 3, 4.
PISTILLUM: GERMINA numerosa, in capitulum collecta, pilosa: STYLUS medio geniculatus, apice paululum incrassato: STIGMA simplex, fig. 5.	PISTILLUM: GERMINA numerous, collected into a head, hairy: STYLE jointed in the middle, a little thickened at top: STIGMA simple, fig. 5.
SEMINA numerosa, compressa, hispidâ, Stylo longo geniculato aristata, fig. 6, receptaculo paleaceo infidentia, fig. 7.	SEEDS numerous, flattened, hispid, terminated by a long Arista, crooked near the extremity, fig. 6, seated on a hairy receptacle, fig. 7.

THE *Geum urbanum* is a very common plant with us, in woods and hedges, flowering from May to September.

The root possesses a degree of astringency, joined to an aromatic flavour like that of Cloves, whence its name of *Caryophyllata*.

Infused in beer, it renders it more fragrant, and prevents it from soon turning sour; *Linnaei Fl. Suecic.*

Chewed in the mouth, it takes off from a disagreeable breath; *Rutty. Mat. Med.*

An infusion of the root in water, given in malignant fevers, has been attended with bad effects, producing delirium: but an infusion of the root in wine, strengthens the stomach and bowels, and is serviceable in the diarrhœa and dysentery, wounds, chronic diseases arising from a laxity of fibre, and intermitting fevers; *Haller hist. p.* 53. *t.* 2.

The root is said to possess the most virtue when it grows in a dry situation.

It is eaten by Kine, Goats, Sheep, and Swine; but not readily by Horses.

It is distinguished from our other *Geum* by its yellow flowers.



ADONIS AUTUMNALIS. PHEASANTSEYE.

ADONIS *Linnaei Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. *Petala* quinis plura absque nectario. *Sem.* nuda.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDD POLYSPERMÆ.

ADONIS *autumnalis* floribus octopetalis, fructibus subcylindricis. *Linnaei Syst. Vegetab.* p. 427. *Sp. Pl.* p. 771.

ADONIS radice annua, flore octopetalo. *Haller hist. n.* 1158.

ADONIS *autumnalis.* *Scopoli Flor. Carniol.* n. 677.

ADONIS hortensis, flore minore atrorubente. *Baubin Pin.* 178.

FLOS ADONIS *Parkinson Parad.* 293.

FLOS ADONIS flore rubro. *Gerard emac.* 387. *Raii Syn.* 251, Adonis Flower, Red Maithes. *Hudson Fl. Angl. ed. 2.* p. 239.

RADIX annua, crassitie digiti minimi, fusiformis, paucis fibrillis instructa.	ROOT annual, the thickness of the little finger, tapering, furnished with few fibres.
CAULIS pedalis, erectus, subangulatus, fistulosus, purpurascens, villosus, ad basin usque ramifusus.	STALK about a foot high, upright, somewhat angular, hollow, purplish, hoary, branched quite to the bottom.
RAMI plurimi, sparsi, cauli similes, erecti, caulem primo florentem plerumque superantes.	BRANCHES numerous, placed irregularly on the stalk, which they resemble, upright, and generally taller than the stalk producing the first flower.
FOLIA alterna, e flavo viridia, infima petiolata, suprema sessilia, pinnata, pinnis multifidis, capillaribus, acutis, subtus nitidis.	LEAVES alternate, of a yellowish green colour; the lower ones standing on foot-stalks; the upper ones sessile, pinnated; the pinnæ divided into numerous capillary segments, pointed, and shining on the under side.
CALYX : PERIANTHIUM pentaphyllum, foliolis subovatis, obtusis, inæqualibus, concavis, purpureis, deciduis, corolla brevioribus, apicibus dentato-erosis, fig. 1, 2.	CALYX : a PERIANTHIUM of five leaves, which are somewhat oval, obtuse, unequal, hollow, purple, deciduous, shorter than the corolla, the tips appearing as if bitten, fig. 1. 2.
COROLLA : PETALO octo, raro plura, sæpe pauciora, inæqualia, obcordata, coccinea, apice erosa, basi interne nigra, externe viridante, fig. 3, 4.	COROLLA : eight PETALS, seldom more, oftener fewer, unequal, inversely heart-shaped, scarlet, the tip irregularly notched, the bottom internally black, externally greenish, fig. 3, 4.
STAMINA : FILAMENTA plurima, quadraginta circiter, filiformia, alba; ANTHERÆ ovata, obtusæ, incurvata, compressæ, atropurpureæ: POLLEN croceum, fig. 5.	STAMINA : FILAMENTS numerous, about forty, thread-shaped, and white: ANTHERÆ oval, obtuse, bending inward, flattened, of a blackish purple colour: POLLEN of a saffron colour, fig. 5.
PISTILLUM : GERMINA plurima, in capitulum breve subconicum imbricatum congesta, erecta: STIGMATA acuta reflexa, fig. 6, 7.	PISTILLUM : GERMINA numerous, upright, collected one over another into a short head, somewhat conical: STIGMATA pointed, the points turned back, fig. 6, 7.
SEMINA subangulata, acuta, reticulato-rugosa.	SEEDS somewhat angular, pointed, with a kind of network wrinkled appearance.

THE *Pheasant's-eye* has a peculiar claim to an insertion in the *Flora Londinensis*, as it is one of those plants which are annually cried about our streets, under the name of *red Morocco*: it may nevertheless be doubted, whether it has not originally been conveyed from the garden to the dungheap, and from thence become an ornamental annual weed in many of the corn-fields in Kent, and other Counties adjacent to London, in which it seems as much at home, as the *Ranunculus arvensis*, or *Corn Crowfoot*.

There is no plant more variable in its Petals, both with respect to number and size; they therefore form a bad specific character.

It flowers in May, and the seed is ripe in June; hence there appears an evident impropriety in calling this species *autumnalis*: it will most probably be found, that the *autumnalis* and *æstivalis* are the same.

In the gardens, (where it is common,) it usually flowers through great part of the Summer.

ANEMONE NEMOROSA. WOOD ANEMONY.

ANEMONE *Linnaei Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. o. Petala 6-9. Sem. plura.

Raii Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

ANEMONE *Nemorosa* feminibus acutis, foliolis incisis, caule unifloro. *Linnaei. Syst. Vegetab. p. 425. Flora Suecic. p. 190.*

ANEMONE feminibus nudis, caule unifloro, foliis radicalibus nullis, caulinis quinque-partitis, lobis tripartitis incisis. *Haller. Hist. Helv. 2. p. 64.*

ANEMONE *Nemorosa. Scopoli Fl. Carniol. p. 383. n. 660.*

ANEMONE fylvestris alba major. *Baubin Pin. 176.*

ANEMONE nemorum alba. *Gerard emac. 383.*

RANUNCULUS nemorosus albus simplex. *Parkinson. 325. Raii Syn. 259, Wood Anemony. Hudson Fl. Angl. 208. Oeder Fl. Dan. tab. 549.*

RADIX teres, per terram oblique repens, crassitie pen-
næ coracis, externe castanea, intus alba, fragilis,
fibrillis fuscis prædita.

CAULIS teres, simplex, triuncialis circiter, purpuraf-
cens, pilis mollibus vestitus, trifolius.

FOLIA terna, subtus hirsutula, tripartita, lobis incisis,
lateralibus fere usque ad basin divisis.

PETIOLI breves, vaginantes.

SCAPUS uniflorus, nutans.

CALYX nullus.

COROLLA : PETALA sex aut septem, oblongo-ovata,
alba, subtus incarnata, patentia, subemargi-
nata, fig. 1.

STAMINA : FILAMENTA numerosa, inæqualia, ca-
pillaria, filiformia, alba : ANTHERÆ flavæ
subrotundæ, biloculares, compressæ : POLLEN
album, fig. 2, 3.

PISTILLUM : GERMINA in capitulum collecta, ovata,
villosa : STYLI subulati, incurvati : STIGMA
simplex, fig. 4, 5.

SEMINA plurima, nuda, oblonga, hirsuta, mucrone
incurvo, fig. 6, 7, auct.

ROOT round, creeping obliquely under the surface of the
earth, the thickness of a crow quill, externally
chestnut colour'd, internally white, brittle,
furnished with brown fibres.

STALK round, simple, about three inches high, pur-
plish, covered with soft hairs, and bearing
three leaves.

LEAVES growing three together, slightly hairy under-
neath, formed of three segments; the side
lobes divided nearly down to the base.

FOOT-STALKS of the leaves short, and forming a
kind of sheath.

FLOWER-STALK supporting one flower, and droop-
ing at top.

CALYX wanting.

COROLLA : six or seven PETALS, of an oblong oval
shape, white, underneath purplish, spreading,
slightly notched in at top, fig. 1.

STAMINA : FILAMENTS numerous, unequal, very
small, thread shaped and white : ANTHERÆ
yellow, roundish, of two cavities, flattish,
POLLEN white, fig. 2, 3.

PISTILLUM : GERMINA collected into a little head,
oval, villous : STYLES tapering and bending
downwards : STIGMA simple, fig. 4, 5.

SEEDS several, naked, oblong, hairy, the top bending
downwards, fig. 6, 7, magnified.

FROM the observations of several Authors, the *Wood Anemone* may be considered as a poisonous plant. According to LINNÆUS, Cattle which have been brought from open to woody pastures, and have eaten of this plant, have been affected with the bloody Flux, and have made bloody Urine. HALLER informs us, that in *Kamtschatka*, the inhabitants are said to poison their Arrows with a species of *Anemone*, the wounds from which produce certain death.

The *Wood Anemone* produces its flowers early in the Spring. In most of our Woods the ground is nearly covered with them, in the months of April and May. In fine clear weather the blossoms are expanded, and become so erect as to face the sun; but in the evening, and in wet weather, they are closed and hang down, whereby the delicate parts of the flower are secured from injury.

The chief variation observed in it, is the colour of its Petals, which are sometimes quite white: and according to MERRET, they occur in *Devonshire* wholly red: both sorts, particularly when double, are cultivated by the Gardeners: and were the same pains to be taken with it, as with some of our foreign *Anemonies*, it might probably be very much improved in the eye of the Florist.

The leaves of divers plants, particularly the *Euphorbia Helioscopia*, are subject to be covered with small yellow dots, the effects of some Insect: this also sometimes happens to the *Wood Anemone*. In C. BAUHINE, we find it mentioned under the name of *Anemone nemorosa sterilis foliis punctatis*. This variety is somewhat unfortunately figured in DILLENIUS's edition of RAY's *Synopsis*, and described as a Fern, to which it certainly has no pretensions, as is evident from the irregularity of its dots.



Anemone nemorosa.



Ranunculus Ficaria

RANUNCULUS FICARIA. PILEWORT.

RANUNCULUS *Linnaei Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. *Cor.* 5-petala. *Sem.* plurim. *Petala* ungue nectarifero.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *Ficaria* foliis cordatis angulatis petiolatis. *Linnaei Syst. Vegetab.* p. 428. *Fl. Suecic.* p. 193.

FICARIA *Haller hist. herb. n.* 1160. *Hudson Fl. Angl.* p. 213.

RANUNCULUS *Ficaria.* *Scopoli Fl. Carniol.* p. 395.

CHELIDONIA rotundifolia minor. *Baubin Pin.* 309.

CHELIDONIUM minus. *Gerard emac.* 816. *Parkinson* 617. *Raii Syn.* 246, Pilewort or the lesser

Celandine. *Oeder Fl. Dan. icon.* 469.

RADIX tuberosa, tuberibus numerosis, congestis, pallidis, subpyriformibus, modo brevibus, modo longe protensis; e summo tuberum oriuntur fibrillæ plurimæ.

CAULES plures, palmares et ultra, teneri, glabri, ad basin rubri, ramosi, decumbentes, nonnunquam etiam repentes, bulbillis in axillis foliorum radicanibus.

FOLIA radicalia subrotundo-cordata, variantia, longe petiolata, maculis albis interdum notata, glabra, venis superne impressis, subcrenata, caulina subtriangularia, angulosa.

PEDUNCULI uniflori, fulcati, peractâ florentiâ recurvati.

CALYX: PERIANTHIUM triphyllum foliolis concavis, deciduis, basi sua caulem amplectentibus, fig. 1.

COROLLA: PETALA plerumque octo, quoad formam valde variantia, plerumque vero ovato-lanceolata, lutea, nitida, fig. 2, 3.

STAMINA: FILAMENTA numerosa; ANTHERÆ flavæ, oblongæ, compressæ, fig. 6, 7.

PISTILLUM: GERMINA numerosa, in capitulum collecta; STIGMATA parva, fig. 8.

SEMINA plurima subovata sæpius abortiva, fig. 9.

NECTARIUM squamula ad basin petalorum, fig. 4, 5.

ROOT tuberous, the knobs or bulbs numerous, crowded, of a pale colour, somewhat pear-shaped, sometimes short, sometimes extended to a considerable length; from the top of them arise many small fibrous roots.

STALKS numerous, four inches or more in length, tender, smooth, red at bottom, branched, decumbent; sometimes even creeping, from little bulbs in the bosoms of the leaves taking root.

LEAVES next the root of a roundish heart-shaped figure, variable, standing on long foot-stalks, sometimes spotted with white, smooth and shining; the veins on the upper side of the leaf pressed in, differently notched in different leaves; those of the stalk triangular with an angular margin.

FOOT-STALKS of the flowers, sustaining one flower on each, grooved, when the blossom is fallen bending backwards.

CALYX: a PERIANTHIUM of three leaves, which are hollow and deciduous, and embrace the top of the stalk, fig. 1.

COROLLA: generally eight PETALS, which vary exceedingly in their form, most commonly of an oval-pointed shape, yellow and shining, fig. 2, 3.

STAMINA: FILAMENTS numerous; ANTHERÆ yellow, oblong and flat, fig. 6, 7.

PISTILLUM: GERMINA numerous, forming a little head; STIGMATA very small, fig. 8.

SEEDS numerous, somewhat oval, most commonly abortive, fig. 9.

NECTARY a little scale at the base of the petals, fig. 4, 5.

BOTANISTS seem very much divided in their opinions respecting the genus of this plant, some making it a *Ranunculus*, others a genus distinct from it. Those who object to its being a *Ranunculus* urge its not having the characters of that genus; that the Calyx, instead of having five leaves, has only three, while the Petals are more numerous than in the *Crowfoots*: this is granted: but is a deficiency in, or an addition to any of the parts of the fructification, a sufficient reason for founding a new Genus? I should apprehend not; for such instances we meet with in plants almost every day: habit and peculiar characteristics are more to be attended to: and in this case, its glossy Petals, with its squamula or scale at the base of each; its grooved peduncles joined to its general appearance, seem fully to justify the great reformer of Botany in making it a *Ranunculus*.

Although the Calyx in general has only three leaves, it sometimes occurs with four and five.

As the *Pilewort* blows earlier than any of our other *Crowfoots*, it is liable to have its parts of fructification injured by the inclemency of the weather, to secure it from which, it has a power of closing its Petals in a much greater degree than the others, and in this state we usually find it in the mornings and evenings, and in wet weather; and may not nature to produce this effect deviate from the usual structure of the flowers of this genus? Is not the Calyx by being in three leaves stronger than if it had been in five? And will not the Petals by being more numerous make less resistance to the closing power of the Calyx?

In its first appearance in the Spring, this plant is small and extends but little; but in the month of May, particularly by the sides of moist ditches, it grows much more luxuriantly, and in this state, small bulbs, like grains of wheat, are observable in the bosoms of the leaves, which, as the stalks lie on the ground, get into the earth, and become the tuberous roots of young plants: this provision of nature for its increase, seems the more necessary, as it is but seldom that its seeds come to perfection. Now and then a head with perfect seeds is observable, and when the plant stands singly, the stalk supporting them bends towards the ground, so that the seeds may insinuate themselves: thus nature appears to have been abundantly careful in its preservation.

The Roots, like those of the *Orchis* and other bulbous plants, are renewed every year.

In some Meadows, Pastures and Orchards, it very much abounds, to the exclusion of more useful plants: as Cattle do not appear to eat it, it would be good husbandry to dig it up, and sow the ground with such plants as are more beneficial.

The particular form of its roots seems first to have introduced it as a medicine for the Piles, in which disorder, like many other remedies more rationally recommended, it may palliate, but will scarcely effect a cure.

It is cultivated in Gardens with a double flower.



Ranunculus hirsutus.



RANUNCULUS HIRSUTUS. PALE-LEAVED CROWFOOT.

RANUNCULUS *hirsutus* radice fibrosa annua, caule hirsuto, calycibus papilloso-hispidis acuminatis, demum reflexis.

RANUNCULUS rectus foliis pallidioribus hirsutus. *J. Baubin.* III. 417. *Raii Syn.* p. 247, Upright pale-leaved Crowfoot. *Raii Hist. Plant.* p. 582.

FROM having repeatedly observed, and carefully cultivated this plant, I find it to be perfectly distinct from the *bulbosus*, of which it is made a variety by some authors; though RAY and BAUHINE long since considered it as distinct.

As its stiff hairs are one of its characteristics, and constitute a part of its name in BAUHINE, I have made that its trivial name; and shall by way of contrast, enumerate the several particulars in which it differs from the *bulbosus*, to which in its general appearance it is nearly allied.

The root of the *bulbosus*, which forms one of the chief characters of that plant, is round and solid like a small turnip, remaining in the ground from year to year, and annually sending up new flowering stems: the root of the *hirsutus* on the contrary is simply fibrous and annual.

The stalk of the *hirsutus* is generally more branched and spreading, producing a greater number of flowers, and covered with stiffer and longer hairs, than in the *bulbosus*: the hairs indeed in the latter plant are more numerous and soft, approaching to pubescence or downiness, while in the former they are more rigid, or approaching to hispidity. The foot-stalks of the bottom leaves in the *hirsutus* are hollow, and if cut asunder, the nerves appear projecting into the inside of the tube; the leaves themselves are more perfectly trilobate than in the *bulbosus*; the middle and outermost lobe rounder, and less deeply divided at the edges. From the inner edge of each of the two side lobes a bit appears as if cut away. These leaves are frequently of a white or pale colour, in irregular spots, not unlike what we sometimes meet with in the *Ranunculus Ficaria*; and the upper surface is full of little projecting points, from whence the hairs issue.

We come now to a character which this plant has in common with the *bulbosus*, viz. its reflexed calyx: this has been the cause of its having been considered by most botanists as the *bulbosus*: not finding in LINNÆUS any other *Ranunculus* with a reflexed calyx, without any farther examination they concluded this to be the same. But although the calyx when turned back resembles that of the *bulbosus*, yet before the opening of the flower it is essentially different, being much more pointed, or as if it had been squeezed to a point with the fingers; and the outside of it is very visibly covered with little papillæ or projecting points, from whence the hairs proceed.

The flowers of this plant, as well as the seed, are also smaller than those of the *bulbosus*.

Such are the characters whereby these two plants may with attention be distinguished.

Nor do they differ less in their places of growth and times of flowering. The *bulbosus* grows in dry pastures, and flowers in the month of May. The *hirsutus* flourishes more by the sides of roads, in gardens, and rubbish, flowering from June to the end of the year.

I have observed this plant growing in great plenty by the side of the road betwixt Croydon and Mitcham; and I remember to have seen it near Gravesend; and plentifully by the sea-side; on the gravelly banks about Southampton; also in various places near London: and there is no doubt but it is a much more common plant than botanists may imagine.

No particular uses have been attributed to it.

RANUNCULUS AURICOMUS. WOOD CROWFOOT.

RANUNCULUS *Linnaei Gen. pl.* POLYANDRIA POLYGYNIA. *Cal.* 5 phyllus. *Petala* 5 infra ungues poro mellifero. *Sem.* nuda.

Raii Syn. G n. 15 HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *auricomus* foliis radicalibus fubreniformibus, tripartitis, acute crenatis, caulinis digitatis linearibus.

RANUNCULUS *auricomus* foliis radicalibus reniformibus crenatis incisfis, caulinis digitatis linearibus, caule multifloro. *Linnaei Syst. Vegetab. p.* 429. *Fl. Suecic.* 194.

RANUNCULUS foliis radicalibus integris et femitrilobatis rotunde crenatis, caulinis multipartitis linearibus integerrimis. *Haller. hist. n.* 1177.

RANUNCULUS *auricomus. Scopoli Fl. Carn. n.* 687.

RANUNCULUS nemorosus vel sylvaticus folio rotundo *Bauhin pin.* 178.

RANUNCULUS *auricomus Ger. emac.* 954.

RANUNCULUS nemorosus dulcis secundus Tragi *Parkinson 326. Fuschii Icon.* 156. *opt. Raii Syn. p.* 248. Sweet Crowfoot or Goldilocks. *Hudson. Fl. Angl. p.* 211.

RADIX perennis, subpræmorsa, mitis, sapore subdulci Glycyrrhizæ accedenti, fibris multis capillari-
bus instructa.

CAULIS pedalis, erectus, dichotomus aut trichotomus, teres, glaber, basi purpureus.

FOLIA lævia, radicalia petiolis longis insidentia, subreni-
formia, mire variantia, integra, tripartita aut
etiam quinquepartita, plerumque vero tripartita
lobis acute crenatis, caulina inferiora pedata,
lobis latis, tripartitis aut quadripartitis, dentatis,
superiora sessilia, linearia, subintegerrima, am-
plexicaulia.

PETIOLI teretes, pubescentes.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis,
concavis, flavescentibus, patentibus *fig. 1.*

COROLLA: PETALA quinque, subrotunda, flava;
unguibus parvis. *fig. 2.*

NECTARIUM: fovea sine squamulâ ad basin petalo-
rum, supra ungues.

STAMINA: FILAMENTA plurima, basi angustiora;
ANTHERÆ oblongæ, flavæ, compressæ, incur-
vatæ; duas aut tres vidi connatas. *fig. 3. 5.*
auct.

PISTILLUM: GERMINA numerosa in capitulum col-
lecta; STIGMATA reflexa, minima. *fig. 4.*

SEMINA fusca, compressa, apicibus reflexis. *fig. 6.*

ROOT perennial, somewhat stumped, mild, with a taste
somewhat resembling liquorice, furnished
with many small fibres.

STALK about a foot high, upright, dividing into two
or three branches, round, smooth and purplish
at bottom.

LEAVES at the bottom of the stalk smooth, sitting on
long footstalks, somewhat kidney shaped, vary-
ing exceedingly, being sometimes entire, some-
times divided into three, or even five lobes,
but most commonly tripartite; the lobes acute-
ly crenated; the leaves towards the bottom di-
vided nearly to the base, with three or four
segments, indented; the uppermost leaves
sessile, linear, almost entire, and embracing
the stalk,

FOOT-STALKS of the leaves round and pubescent.

CALYX: a PERIANTHIUM of five leaves, the leaves
oval, concave, yellowish, and spreading. *fig. 1.*

COROLLA five roundish yellow petals, with small un-
gues or claws, *fig. 2.*

NECTARY: a depression without any scale, at the
bottom of the petals above the Claws.

STAMINA: FILAMENTS numerous, narrow at bot-
tom; ANTHERÆ oblong, yellow, flattened,
and incurvated. I observed two or three grow-
ing together. *fig. 3. 5.* magnified.

PISTILLUM: GERMINA numerous, collected into a
little head; STIGMATA small and reflexed. *fig. 4.*

SEEDS brown, flat with a reflexed point. *fig. 6.*

Distinguished from the other *Crowfoots* by its growing in Woods; (though I have sometimes found it in boggy meadows,) by its Calyx being nearly as yellow as its petals, and not turning back as in the *bulbosus*; the *Nectary* at the bottom of the petals a *small oblique hole* running downwards, not cover'd with any squamula; the bottom leaves of the plant more entire, and those at the top narrower than in most of the other *Crowfoots*; the footstalks of the flowers not grooved; the Petals often wanting, particularly when cultivated in Gardens, or not sheltered by Trees.

It flowers in April and May; and is not particularly distinguished for its Uses or Beauty.



Ranunculus Auricomus.

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RANUNCULUS SCELERATUS. CELERY-LEAV'D CROWFOOT.

RANUNCULUS *Lin. Gen. Pl.* POLYANDRIA POLYGYNIA.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDD POLYSPERMÆ.

RANUNCULUS *sceleratus* foliis inferioribus palmatis; fummis digitatis, fructibus oblongis. *Lin. Syst.*

Vegetab. p. 429. *Sp. Pl.* p. 776. *Fl. Suecic.* p. 194. n. 499.

RANUNCULUS foliis levibus, semitriobatis, rotunde ferratis, fructu ovato. *Haller hist.* p. 74. n. 1175.

RANUNCULUS *sceleratus.* *Scopoli Fl. Carniol.* n. 688.

RANUNCULUS palustris apii folio lævis. *Baubin. pin.* 180.

RANUNCULUS palustris rotundifolius. *Ger. emac.* 962.

RANUNCULUS palustris fardonia lævis. *Parkinson.* 1215. *Raii Syn.* p. 249. Round-leaved Water Crowfoot.

Hudson Fl. Angl. p. 212.

Oeder Dan. icon. 570.

Lightfoot Fl. Scot. p. 291. Celery-leaved Crowfoot.

RADIX annua, fibrosissima, fibris albidis.

CAULIS erectus, pedalis ad bipedalem, insigniter crassus, fistulosus, lævis, ramosus.

FOLIA radicalia longe petiolata, nitida, subcarnosa, trilobata, lobis trifidis rotunde crenatis; caulina subsessilia, palmata; suprema elliptica.

FLORES exigui, flavi.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, flavescentibus, deciduis, fig. 1.

COROLLA: PETALA quinque, parva, ovata, flava, nitida, magnitudine calycis, decidua, fig. 2.

NECTARIUM: Fovea marginata, ad basin cujusvis petali, fig. 3.

STAMINA: FILAMENTA plurima, raro ultra viginti, basi tenuiora: ANTHERÆ flavæ, compressæ, biloculares, fig. 5.

PISTILLUM: GERMINA numerosa, in capitulum oblongum, collecta: STIGMATA minima, germinibus insidentia.

SEMINA plurima, compressa, ovato-acuminata, parva, receptaculo oblongo affixa, fig. 6.

ROOT annual, exceedingly fibrous, the fibres whitish.

STALK upright, from one to two feet high, remarkably thick, hollow, smooth, and branched.

LEAVES: radical leaves fitting on long foot-stalks, shining, somewhat fleshy, divided into three lobes; the lobes trifid, and roundly notched; stalk-leaves nearly sessile, and palmated; uppermost leaves elliptical.

FLOWERS small and yellow.

CALYX: a PERIANTHIUM of five leaves, the leaves oval, hollow, yellowish and deciduous, fig. 1.

COROLLA: five small, oval, yellow, shining PETALS, the size of the Calyx, and deciduous, fig. 2.

NECTARY, a depression or pore at the base of each Petal, surrounded by a prominent margin, fig. 3.

STAMINA: FILAMENTS numerous, seldom more than twenty, slender at bottom: ANTHERÆ yellow, flat and bilocular, fig. 5.

PISTILLUM: GERMINA numerous, collected together into an oblong head: STIGMATA very minute, fitting on the Germina.

SEEDS numerous, flat, oval and pointed, small, affixed to an oblong receptacle, fig. 6.

THIS species is distinguished from the other *Crowfoots*, by its growing in or near the water, by its broad shining bottom leaves, thick stalk, small yellow flowers, and smooth oblong seed-heads.

The leaves and flowers possess a considerable degree of acrimony, so as even to blister the skin, if applied to it: chewed in the mouth, they inflame and chop the tongue: nor have their effects been less violent when taken into the stomach. It is suspected to have proved poisonous to sheep. *Haller hist. helv.* p. 75.

It begins to flower in May and June, and continues in blossom all the Summer, by the sides of ponds and ditches. It is eaten by goats, but refused by kine, sheep, and horses, *Linn. Amæn. Acad.*



Ranunculus sceleratus

AJUGA REPTANS. COMMON BUGLE.

AJUGA *Linnaei Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Corollæ labium superius minimum. *Stamina* labio superiore longiora.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

AJUGA stolonibus reptantibus. *Linnaei Sp. Pl.* p. 705.

BUGULA foliis ovato dentatis, flagellis reptans. *Haller hist. n.* 282.

BUGULA reptans. *Scopoli Fl. Carniol. n.* 716.

CONSOLIDA media pratensis cœrulea. *Baubin. pin.* 260.

BUGULA vulgaris. *Parkinson* 525.

BUGULA *Gerard emac.* 631. *Raii Syn.* p. 245, Bugle. *Hudson Fl. Angl.* p. 219.

RADIX perennis, fibrosa.

ROOT perennial and fibrous.

STOLONES plurimæ, repentes, ex superiore parte radicis nascuntur.

CREEPERS or shoots, in great numbers spring from the upper part of the root, and creep on the ground.

CAULIS erectus, semipedalis, quadratus, hirsutus, præsertim inter flores, purpureus.

STALK upright, about six inches high, square, hairy, particularly among the flowers, of a purple colour.

FOLIA opposita, ovata, basi angustiora, connata, dentata, venosa, sæpe purpurea et nitida; Bractææ purpureæ, foliis similes at minores et breviores.

LEAVES opposite, oval, narrowest at bottom and joining together, indented at the edges, veiny, often purple and shining; Floral-leaves like the others, but smaller and shorter.

FLORES cœrulei, spicati, verticillati.

FLOWERS blue, growing in whirled spikes.

CALYX: PERIANTHIUM monophyllum, semiquinquefidum, pilosum, nervosum, cœrulescens, laciniis subæqualibus, acutis, duobus inferioribus magis approximatis, *fig.* 1.

CALYX a PERIANTHIUM of one leaf, half divided into five segments, hairy, nervous, blueish; the segments nearly equal, sharp; the two lowermost approaching nearest together, *fig.* 1.

COROLLA monopetala, ringens, tubus cylindraceus, incurvus, labium superius brevissimum, bidentatum, inferius trifidum, subtus hirsutulum, cœruleum, venis albis pictum, *fig.* 2, 3.

COROLLA of one PETAL, gaping, the tube cylindrical, bent downward; the upper lip very short, with two teeth; the lower lip trifid, a little hairy underneath, of a blue colour, painted with white veins, *fig.* 2, 3.

STAMINA: FILAMENTA quatuor alba, recta, labio superiore longiora: ANTHERÆ flavæ, *fig.* 3.

STAMINA: four white FILAMENTS, straight, longer than the upper lip of the Corolla: ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN quadripartitum: STYLUS filiformis, situ et longitudine Stamina: STIGMA bifidum, minimum, *fig.* 4, 5, 6.

PISTILLUM: GERMEN divided into four parts: STYLE thread-shaped; the length of and in the direction of the Stamina: STIGMA bifid and very small, *fig.* 4, 5, 6.

NECTARIUM Glandula flava ad basin Germinis unde Calyx subventricosus fit, *fig.* 7.

NECTARY a yellow gland at the base of the Germen which makes the Calyx protuberate, *fig.* 7.

SEMINA quatuor, ovata in fundo Calycis, *fig.* 8.

SEEDS four, of an oval shape in the bottom of the Calyx, *fig.* 8.

THE Bugle is another of our English plants which may be recommended as an addition to our gardens. It is fond of a shady and moist situation, and readily propagates itself by means of its creeping shoots.

According to RAY, a variety with red flowers grows plentifully in the second field on the left hand going from *Weston Green* to *Elibam*; and with white flowers it has been found in *Charlton Wood*. The leaves in the Winter are often of a beautiful purple colour. It flowers in all our woods about town from May to July.

The character of this genus is taken from the shortness or rather want of the upper lip of the flower: exclusive of this mark, it is very nearly related to the genus *Glechoma* or *Ground Ivy*. It has a considerable large gland at the base of the germen in the bottom of the calyx, which occasions the latter to protuberate. This gland, however, is not peculiar to this genus, but occurs in most of the plants of the same class, from whence the bees collect a great part of their honey.

It has been considered by the old writers as an excellent vulnerary, applied both inwardly and outwardly, particularly so in *France*, where, according to RAY, it is common for them to say that *those who have Bugle and Sanicle need no Surgeon*.



Ajuga reptans

GLECHOMA HEDERACEA. GROUND-IVY.

GLECHOMA *Linnaei. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Anthearum singulum par in formam crucis connivens. Calyx 5-fidus.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

GLECHOMA *hederacea. Lin. Syst. Vegetab. p. 445. foliis reniformibus crenatis. Spec. Pl. p. 807. Fl. Suecic. p. 202.*

CHAMÆCLEMA *caule procumbente radicato, foliis reniformibus rotunde crenatis. Haller hist. n. 245.*

CALAMINTHA *hederacea. Scopoli. Fl. Carniol. p. 423.*

CALAMINTHA *humilior, folio rotundiore. Tourn. Inst. R. H. 194.*

HEDERA *terrestris. Baubin. Pin. 306.*

HEDERA *terrestris. Gerard. emac. 856.*

HEDERA *terrestris vulgaris. Parkinson. 676. Raii Syn. p. 296, Ground-ivy, Gill-go-by-ground, Alehoof, or Tunhoof. Hudson. Fl. Angl. p. 224.*

RADIX *perennis, fibrosa.*

CAULES *seu potius Flagellæ plures, tetragoni, humi repentes et late se diffundentes, unde exsurgunt caules floriferi palmares aut semipedales, quadrati, hirsuti, (pilis deorsum versis,) erecti, infirmi, geniculati, geniculis pilosis.*

FOLIA *opposita, longe petiolata, subreniformia, crenata, venosa, petiolis superne fulcatis.*

FLORES *purpurei, verticillatim circa caulem dispositi.*

PEDUNCULI *triflori.*

INVOLUCRUM *universale et partiale, fig. 2, 3, diphyllum, fetaceum, sed in flosculo intermedio, fig. 4, partiale desideratur.*

CALYX: PERIANTHIUM *monophyllum, tubulosum, quinquedentatum, dentibus subæqualibus, acuminatis, hirsutum, striatum, fig. 5.*

COROLLA *monopetala, tubulosa, ringens, tubus tenuis, superne compressus, labium superius erectum obtusum, semibifidum, inferius patens, majus, trifidum, laciniâ intermediâ majori, emarginatâ, ad basin hirsutâ et maculis saturatius purpureis notata, fig. 7, 8.*

STAMINA: FILAMENTA *quatuor sub labio superiore, quorum duo breviora: ANTHERÆ conniventes in formam crucis, albæ, fig. 9.*

PISTILLUM: GERMEN *quadrifidum, fig. 11, glandulâ cinctum, fig. 10. STYLUS filiformis, corollâ longior: STIGMA bifidum, acutum.*

PERICARPIUM *nullum, calyx in sinu fovens*
SEMINA *quatuor, ovata.*

ROOT *perennial and fibrous.*

STALKS, or rather Shoots, numerous, square, creeping on the ground, and spreading wide, from whence arise the flowering stalks, which are from four to six inches high, square, hirsute, (the hairs turning downward,) upright, weak, jointed, the joints hairy.

LEAVES opposite, standing on long foot-stalks, somewhat kidney-shaped, notched, veiny, the leaf-stalks grooved on the upper side.

FLOWERS of a purple colour, disposed in whirls around the stalk.

FLOWER-STALKS supporting three flowers.

INVOLUCRUM both universal and partial, fig. 2, 3, each composed of two fine pointed leaves, which however are wanting in the middle flower, fig. 4.

CALYX: a PERIANTHIUM of one leaf, tubular, with five teeth, (which are nearly equal, and long pointed,) hairy, and finely grooved, fig. 5.

COROLLA monopetalous, tubular, ringent, the tube slender, and compressed above; the upper lip upright, obtuse, divided half way through; the lower lip larger, spreading, divided into three segments, of which the middle one is largest, with a slight notch, hairy at its base, and marked with purple spots of a deeper colour, fig. 7, 8.

STAMINA: four FILAMENTS placed under the upper lip, two short and two long: ANTHERÆ white, forming a cross, fig. 9.

PISTILLUM: GERMEN divided into four, fig. 11, surrounded by a gland, fig. 10: STYLE thread-shaped, larger than the corolla: STIGMA bifid, and pointed.

SEED-VESSEL none, the calyx in its cavity containing four

SEEDS of an oval shape.

GROUND-IVY has an aromatic, though not very agreeable smell; and a quick, bitterish, warm taste. This herb is an useful corroborant, aperient, and detergent; and hence stands recommended against laxity, debility, and obstructions of the viscera. Some have had a great opinion of it for cleansing and healing ulcers of the internal parts, even of the lungs; and for purifying of the blood. It is customary to infuse the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtue, and likewise helps to fine them down: scarce any other herb has this effect more remarkably than *Ground-ivy. Lewis's Disp. p. 150.*

From the latter use, the plant has obtained the names of *Alehoof* and *Tunhoof. Raii hist. p. 567.*

The juice of the plant drawn up the nostrils, not only mitigates, but totally removes violent and inveterate headaches. *Ibid.*

Notwithstanding the credit which this plant has obtained with former writers on the *Materia Medica*, the modern practice holds it in little estimation.

Red hairy tumours are frequently found on it, which are occasioned by the *Cynips Glechomæ, Linnaei Faun. Suecic. n. 1520.*

It slowly expels those plants which grow next it, and hence impoverishes pastures. *Lin. Fl. Suecic. p. 202.*

Cattle are not fond of it, and horses are said to be hurt by feeding on it: to make amends for this however, the juice of the herb, mixed with a little wine, and applied morning and evening, is said to take away the film on horses eyes. *Linn. Fl. Suecic. ex Loes. 123.*

The plant is well known to grow under hedges, in woods, on banks, and sometimes in dry pastures. It varies in size according to its situation; the flowers also vary in the degrees of purple; and make their appearance in April, May, and June.

111



Glechoma hederacea



LAMIUM ALBUM. WHITE DEAD-NETTLE.

LAMIUM *Linnaei Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Corollæ lab. sup. integrum, fornicatum; lab. inf. 2-lobum, faux utrinque margine dentata.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

LAMIUM *album* foliis cordatis, acuminatis, ferratis, petiolatis, verticillis vigintifloris. *Lin. Syst. Vegetab. p. 446. Sp. pl. p. 446. Flor. Suecic. p. 203.*

LAMIUM foliis cordatis, acutis, ferratis, verticillis multifloris. *Haller. hist. helv. n. 271.*

LAMIUM *album. Scopoli Fl. Carniol. n. 700.*

LAMIUM *album* non foetens folio oblongo. *Bauhin. Pin. 231.*

LAMIUM *album. Gerard emac. 782.*

LAMIUM vulgare album five Archangelicum flore albo. *Parkinson. 604.*

Raii Syn. 240. White Archangel or Dead-Nettle.

Hudson. Fl. Angl. ed. 1. p. 225. ed. 2. 255.

Lightfoot Fl. Scot. p. 308.

RADIX perennis, alba, geniculata, repens.

CAULES plurimi, pedales, suberecti, simplices, basi tenuiores, quadrati, fistulosi, hirsutuli, in apicis ex rufo-purpurascens, furculi debiles, adscendentes.

FOLIA petiolata, cordata, acuta, deflexa, inæqualiter ferrata, apicibus denticulorum rufis introrsum versis, venosa, superne et inferne hirsutula, summis ut caules sæpe coloratis, circa radicem folioli etiam occurrunt subrotunda, crenulata.

FLORES verticillati, majusculi, albi; haud infrequenter etiam rubore quodam tincti; verticilli decem quindecim aut vigintiflori.

CALYX: PERIANTHIUM monophyllum, tubulosum, sessile, nervosum, quinquedentatum, dentibus setaceis, hirsutum, persistens, inferne ad basin maculis purpureis notatum et bractæa brevi lineari suffultum, *fig. 1, 2.*

COROLLA monopetala, ringens; TUBUS longitudine fere labii superioris, curvatus, antice inferne prominulus, superne intropressus, faux inflata, margine utraque denticulis duobus plerumque notata, labium superius fornicatum, pilosum, emarginatum, aliquando etiam dentatum, lineis duabus elevatis ad verticem coadunatis notatum, labium inferius bifidum, reflexum, crenulatum, ad basin maculatum, *fig. 3, 4.*

STAMINA: FILAMENTA quatuor, filiformia, alba, apicibus villosis, paululum incrassatis et incurvatis: ANTHERÆ purpureæ, hirsutæ; POLLEN flavum, *fig. 5.*

PISTILLUM: GERMEN quadrifidum, *fig. 6,* glandula cinctum, *fig. 7:* STYLUS filiformis longitudine et situ Stamina: STIGMA bifidum acutum, *fig. 8, 9.*

SEMINA quatuor, in fundo calycis, trigona, appendiculata, *fig. 10,*

ROOT perennial, white, jointed, and creeping.

STALKS numerous, a foot high, nearly upright, unbranched, slender at bottom, square, hollow, and slightly hairy; in exposed situations, of a reddish purple colour: the young shoots weak and rising upward.

LEAVES standing on foot-stalks, heart-shaped, pointed, hanging down, unequally serrated; the tips of the little teeth red and turned inward, veiny, above and beneath somewhat hirsute; the uppermost leaves, as well as the stalks, frequently coloured; the leaves about the root are often small, round, and crenated.

FLOWERS growing in whirls, largish, of a yellowish white colour, not uncommonly tinged with red; the whirls having ten, fifteen, or twenty flowers in them.

CALYX: a PERIANTHIUM of one leaf, tubular, sessile, rib'd, hirsute and continuing, having five teeth, which are setaceous; on its lower side, at bottom, marked with purple spots, and supported by a short linear bracteal leaf, *fig. 1, 2.*

COROLLA monopetalous and ringent; the TUBE nearly the length of the upper lip, and crooked, anteriorly prominent below, and pressed in above; the mouth inflated, and marked generally on each side with two little teeth; the upper lip arched, hairy, with a slight notch, and sometimes indented, distinguished by two elevated lines, which unite at the crown; the inferior lip bifid, turned back, slightly notched, and spotted at bottom, *fig. 3, 4.*

STAMINA: four FILAMENTS, filiform, white, the tips villous, a little thickened, and bent inward: ANTHERÆ purple and hairy; POLLEN yellow, *fig. 5.*

PISTILLUM: GERMEN divided into four, *fig. 6,* surrounded by a gland, *fig. 7.* STYLE filiform, of the same length and situation as the Stamina: STIGMA bifid and acute, *fig. 8, 9.*

SEEDS four, in the bottom of the Calyx, three cornered, with a little appendage at bottom, *fig. 10.*

THE *White Dead-Nettle* or *Archangel*, is one of our earliest spring plants, ornamenting our banks in April and May; and is much resorted to by Bees for the sake of its honey, which is secreted into the bottom of the tube in considerable plenty, by a little gland surrounding the base of the germen.

The flowers have been particularly celebrated in uterine fluors, and other female weaknesses; as also in disorders of the lungs; but they appear to be of very weak virtue: *Lewis's Disp. part. 2. p. 163.*

The bruised leaves are recommended to disperse tumours, even of the schrophulous kind; *Rutty's Mat. Med. p. 271;* but very little dependance is to be placed on such recommendations. There is scarce a plant but what (if we may believe the antients) possesses some wonderfully healing power of this kind.

Like the other *Lamiums*, it has a disagreeable smell when bruised.

Boys make whistles of the stalks.

In the south of France, it is said to occur with a purple flower. I have frequently found it slightly tinged with red.

The *Phalena Chrystis*, *Burnished Brass Moth*, *Lin. Faun. Suecic. p. 311. Albin. Insect. tab. 71,* feeds on it: and in Sweden the leaves are eaten in the spring as a pot-herb; *Lin. Flor. Suecica.*

Having a strong creeping perennial root, and being a plant which cattle dislike, it should be extirpated by the Farmer

Lamium album





Lamium amplexicaule

Sanson. Sculp.

LAMIUM AMPLEXICAULE. HENBIT DEAD - NETTLE.

LAMIUM *Linnaei* Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

Corollæ lab. super. integrum, fornicatum; lab. inf. 2-lobum; faux utrinque margine dentata.

Raii Syn. Gen. 14. Suffrutices et Herbæ verticillatæ.

LAMIUM *amplexicaule* foliis floralibus sessilibus amplexicaulibus obtusis. *Linnaei Syst. Vegetab.* p. 446.

Spec. Plant. p. 203. *Flor. Suecic.* p. 809.

LAMIUM foliis radicalibus petiolatis, lobatis, superioribus caulem ambientibus, rotunde incisfis.

Haller hist. n. 273.

LAMIUM *amplexicaule.* *Scopoli Fl. Carniol.* n. 702.

LAMIUM folio caulem ambiente majus et minus. *Baubin pin.* 231.

ALSINE hederula altera. *Gerard. emac.* 616.

ALSINE hederula folio major. *Parkinson* 762.

Raii Syn. p. 240. Great Henbit.

Hudson. Fl. Angl. p. 225.

Lightfoot Fl. Scot. p. 309.

RADIX annua, fibrosa, albida.

CAULES ex una radice plures, dodrantes, aut pedales, subrecti, quadrati, læves, ramis paucis oppositis.

FOLIA opposita, inferiora petiolata, subrotundo cordata, inciso-crenata, venosa, hirsutula, petiolis superne concavis foliis longioribus, superiora sessilia, semiorbiculata, incisa, laciniis obtusif-
culis.

FLORES verticillati ad 15, duorum generum, manci scilicet et perfecti, manci breves, calycibus paulo longiores, apicibus ruberrimis hirsutis clausis, *fig. 1, 2*; perfecti calyce quadruplo longiores, purpurei, e summitatibus caulium ut plurimum erumpentes, *fig. 3*.

CALYX *in perfectis*, PERIANTHIUM quinquedentatum, tubulosum, vix manifeste striatum, dentibus æqualibus, acuminatis, hirsutis, *fig. 4*.

COROLLA: TUBUS prælongus, cylindraceus, suberectus, faux inflata, margine reflexâ maculatâ, denticulis duobus notata, collum prominulum, labium superius fornicatum, hirsutum, subintegrum; labium inferius deflexum, bilobum, maculis purpureis notatum, *fig. 5, 6, 7, 8*.

STAMINA: FILAMENTA quatuor, quorum duo longiora, alba, sub labio superiore: ANTHERÆ pilosæ, polline croceo refertæ, *fig. 9*.

PISTILLUM: GERMEN quadrifidum: STYLUS filiformis, longitudine et situ staminum: STIGMA bifidum, acutum, *fig. 10*.

SEMINA quatuor in fundo calycis, appendiculata, punctis albis notata, *fig. 11, 12*.

ROOT annual, fibrous, and of a whitish colour.

STALKS, several from one root, nine inches or a foot high, nearly upright, square, smooth, with a few opposite branches.

LEAVES opposite, the lower ones standing on foot-stalks, of a roundish heart-shaped figure, deeply crenated, veiny, slightly hairy; the foot-stalks grooved on the upper part, and longer than the leaves; the upper ones semi-orbicular, cut in at the edges, the segments somewhat blunt.

FLOWERS growing in whirls to 15, of two kinds, perfect and imperfect; the imperfect ones short, a little longer than the Calyx, the tips very red, hairy, and closed, *fig. 1, 2*; the perfect ones four times the length of the Calyx, of a bright purple colour, and generally breaking out from the tops of the stalks, *fig. 3*.

CALYX *in the perfect ones*, a PERIANTHIUM with five teeth, tubular, scarce manifestly striated; the teeth equal, acuminated, and hirsute, *fig. 4*.

COROLLA: the TUBE very long, cylindrical, nearly upright, the mouth inflated, the edge turned back, spotted, and marked with two little teeth; the neck a little prominent; the upper lip arched, hirsute, and nearly entire; the lower lip turning down, having two lobes, which are spotted with purple, *fig. 5, 6, 7, 8*.

STAMINA: four FILAMENTS, two long and two short, of a white colour, placed under the upper lip: ANTHERÆ hairy, filled with a saffron-coloured pollen, *fig. 9*.

PISTILLUM: GERMEN divided into four parts: STYLE filiform, of the same length and situation with the Stamina: STIGMA bifid and acute, *fig. 10*.

SEEDS four, in the bottom of the Calyx, with a little appendage to each, surface covered with white spots, *fig. 11, 12*.

IN the flowering of this plant, there are some circumstances well deserving of attention.

Two kinds of blossoms are observable on it; the one a very small short one, like the rudiments of a flower, a little longer than the Calyx, with the mouth closed, very hairy, and of a bright red colour; the other a flower like that of the *Lamium purpureum*, but much longer.

The first of these blossoms, which so far as respects the Corolla, are evidently imperfect, appear very early in the Spring, in February and March: the long and perfect blossoms do not make their appearance till May or June, when they are observable on the tops of the stalks: and if the progress of the flowers be watched, the Corolla will be found to be gradually enlarged in different blossoms, till the weather being sufficiently warm, they come forth fully formed.

Those who have attended to the changes of Insects, must have observed, that if a Caterpillar has, previous to its changing into the chrysalis or pupa state, been deprived of its proper quantity of food, the Fly has come forth perfect in all its parts except the wings, which are crumpled up, and never expand; so this plant, for want of a sufficient degree of warmth, is not able to push forth an expanded Corolla; yet being perfect in every other part, the species suffers no diminution.

I had for several years imagined, that the imperfect flowers were the rudiments of the long blossoms; but on a more minute enquiry, I found that they never grew any longer, but decayed. I was then ready to suppose that they were barren flowers; but on dissecting them, I found that each had both Stamina and a Pistillum.

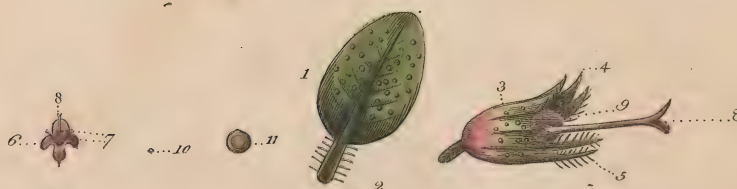
Since the above observations were made, I find, on looking into the *Flora Suecica*, that LINNÆUS takes notice of its scarce ever producing perfect blossoms in Sweden.

Here then is a process somewhat similar to what we observe in the Violet and some other plants, where perfect seed is produced, although the Corolla be not perfectly formed.

It grows with us frequently on walls; and in the greatest abundance in the fields and gardens about Battersea and Lambeth, where the soil is light.



Thymus



Thymus Serpyllium?

THYMUS SERPYLLUM. COMMON WILD THYME.

THYMUS *Linnaei* Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

Calycis bilabiati fauce villis clausa.

Raii Syn. Gen. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

THYMUS *Serpyllum* floribus capitatis, caulibus repentibus, foliis planis obtusis, basi ciliatis. *Linnaei*
Syst Vegetab. p. 452.

THYMUS foliis ovatis ad basin ciliatis. *Haller hist. n. 235.*

THYMUS *Serpyllum* *Scopoli Fl. Carniol. n. 736.*

SERPYLLUM vulgare minus. *Baubin Pin. 220.*

SERPYLLUM vulgare. *Gerard emac. 570.*

SERPYLLUM vulgare minus. *Parkinson 8. Raii Syn. p. 230, Common Mother of Thyme. Hudson*
Fl. Angl. p. 229.

RADIX lignosa, fibrosa, fusca, perennis.

CAULES numerosi, quadrangulares, duriusculi, procumbentes, ramosi, ramis alternis.

FOLIA ovata, petiolata, integerrima, plerumque lævia, glandulis punctata, petiolis ciliatis, fig. 1, 2.

FLORES in summitatibus caulium verticillatim dispositi, et in capitulis subrotundis congesti.

CALYX: PERIANTHIUM monophyllum, tubulatum, striatum, fauce villis clauso, fig. 9, semibifidum in duo labia, labium superius latius, tridentatum, dentibus reflexis; inferius bifidum dentibus ciliatis, fig. 3, 4, 5.

COROLLA monopetala; TUBUS longitudine setarum calycis, labium superius reflexum, emarginatum, obtusum, inferius trifidum, longius, laciniis obtusis medio longiore, fig. 6.

STAMINA: FILAMENTA quatuor inæqualia; ANTHERÆ minimæ, fig. 7.

PISTILLUM: GERMEN quadripartitum; STYLUS Corolla longior, recurvatus; STIGMA bifidum, acutum, fig. 8.

SEMINA quatuor, parva, subrotunda, fusca, fig. 10, 11.

ROOT woody, fibrous, of a brown colour, and perennial. STALKS numerous, square, hard, procumbent, and branched; the branches alternate.

LEAVES oval, standing on foot-stalks, entire at the edges, generally smooth, dotted with little glands; the foot-stalks furnished with long hairs, fig. 1, 2.

FLOWERS placed in whirls on the tops of the stalks, and forming small roundish heads.

CALYX: a PERIANTHIUM of one leaf, tubular, striated; the mouth closed up with hairs, fig. 9, divided into two lips; the uppermost having three teeth which bend back; the lowermost two, much longer, narrower, and edged with hairs, fig. 3, 4, 5.

COROLLA monopetalous: the TUBE the length of the Calyx; the upper lip turning back, notched in and blunt; the lowermost longer, divided into three segments, the segments obtuse, the middle one longest, fig. 6.

STAMINA: four FILAMENTS of unequal lengths: ANTHERÆ very minute, fig. 7.

PISTILLUM: GERMEN dividing into four parts; STYLE longer than the Corolla, and turning upwards; STIGMA bifid and pointed, fig. 8.

SEEDS four, small, roundish, of a brown colour, fig. 10, 11.

FEW Plants are subject to so many varieties as the *Wild Thyme*. In its most natural state, when found on dry exposed Downs, it is small and procumbent: when growing among Furze or other plants, which afford it shelter, it runs up with a slender stalk to a foot or more in height, and assumes an appearance which might puzzle the young Botanist. It differs also very much in the smoothness and hairiness of its leaves: and there is a singular variety of it, remarked by LINNÆUS, with woolly heads, (*Capitulis tomentosis*) which are the nidus of some Insect. We have seen whole banks covered with this turgid variety. The *Veronica Chamædrys*, *Glechoma hederacea*, *Valeriana Locusta*, and other plants, are frequently distorted, and appear under the same disguise from a similar cause.

On dry chalky Downs the *Wild Thyme* abounds all over England; flowering in July and August.

It has been a received opinion, that Thyme and other aromatic herbs, give a flavour to the flesh of Sheep that feed where these plants are found: but curious observers have remarked, that Sheep neither eat Thyme nor any other aromatic herb when they have a free choice of pasturage.*

The Antients planted Thyme for the sake of their Bees, who collect Honey very largely from it; which at that period was of more value than at present: the cultivation of Sugar in the West India Islands, has contributed much to reduce its consequence in domestic œconomy.

THEOPHRASTUS relates, that *Thyme* produced no seed that could be discovered; but that the plant might be increased by sowing its flowers. PLINY copies this passage from THEOPHRASTUS; and instead of doubting the fact, remarks "*quid non tentavere homines?*" What experiments have not mankind tried? The credulity of the Antients is very wonderful! Whatever one Author advanced, the next took for granted, to the great detriment of natural history.—Investigation was never thought of!

Dr. ARMSTRONG, in his elegant and classical poem on health, recommends the soil where this plant (*Thyme or Marjoram*) abounds, as particularly healthful and proper for habitations.

————— "Mark where the dry Champaign
"Swells into chearful hills; where Marjoram
"And Thyme, the love of Bees, perfume the Air.
"There bid thy roofs, high on the basking steep
"Ascend: there light thy hospitable fires".

* See account of Sheep-walks in Spain, Gent. Mag. 1764.



Erysimum alliaria

Sonch. Sculp.

ERYSIMUM ALLIARIA. SAUCE-ALONE.

ERYSIMUM *Linnæi Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Siliqua columnaris, exacte tetraëdra. Cal. clausus.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ERYSIMUM *Alliaria foliis cordatis. Linnæi Syst. Vegetab. p. 499. Sp. Pl. p. 923. Fl. Suecic. n. 600.*

ERYSIMUM *Haller Hist. p. 208. n. 480.*

SISYMBRIUM *Alliaria. Scopoli Fl. Carn. n. 825.*

ALLIARIA *Baubin Pin. 110. Gerard emac. 796. Parkinson 112.*

HESPERIS *allium redolens. Raii Syn. 293. Jack by the Hedge, or Sauce-alone.*

Hudson. Fl. Angl. ed. 2. p. 286.

Lightfoot Fl. Scot. 186.

RADIX biennis, albida, fusiformis, plurimis fibrillis instructa.

CAULIS erectus, bi aut tripedalis, teres, lævis, substriatus, inferne purpureus, villosus, superne ramosus.

RAMI pauci, alterni, erecti.

FOLIA alterna, petiolata, cordata, venosa, subrugosa, inferiora longius petiolata, rotundata, superiora acuta, inæqualiter dentato-ferrata.

FLORES nivei, terminales, erecti, pedunculis longitudine florum infidentes.

CALYX: PERIANTHIUM tetraphyllum, foliolis oblongis, pallide virescentibus, obtusis, deciduis, apice interne concavis, externe gibbis, *fig. 1.*

COROLLA: PETALA quatuor, obovata, unguiculata, unguis erectus, linearis, limbus patens, venis paucis exaratus, *fig. 2.*

STAMINA: FILAMENTA sex, subulata, alba, duo breviora incurvata, quatuor longiora erecta, longitudine Styli, *fig. 3, 6*: ANTHERÆ oblongæ, cordatæ, flavæ, incumbentes, erectæ, *fig. 4, 5.*

NECTARIUM: glandula rotunda solitaria utrinque ad basin Staminum longiorum, basis vero Staminum breviorum glandulâ cingitur.

PISTILLUM: GERMEN obscure tetragonum, oblongum, *fig. 7*: STYLUS brevissimus, *fig. 8*: STIGMA capitato-truncatum.

PERICARPIUM: SILIQUA biuncialis, teres, subtetragona, lineata, bilocularis, bivalvis, *fig. 9.*

SEMINA plurima, oblonga, fusca, nitida, striata, utraque extremitate oblique truncatâ, dissepimento utrinque nidulantia, *fig. 10.*

ROOT biennial, of a whitish colour, tapering, and furnished with numerous fibres.

STALK upright, from two to three feet high, round, smooth, somewhat striated, at bottom purple, and slightly hoary, at top branched.

BRANCHES few, alternate, and upright.

LEAVES alternate, standing on foot-stalks, heart-shaped, veiny, and somewhat wrinkled; the lower ones standing on long foot-stalks, and round at the tips; the upper ones pointed, and unequally toothed or fawed.

FLOWERS white, terminal, upright, standing on stalks the length of the flowers.

CALYX: a PERIANTHIUM of four leaves, which are oblong, of a pale green, obtuse, the tips internally concave, externally gibbous, *fig. 1.*

COROLLA: four PETALS, inversely oval, and clawed; the claw erect and linear; the limb spreading, and grooved with a few veins, *fig. 2.*

STAMINA: six FILAMENTS tapering, and white; the two shorter ones bending inwards; the four longer ones upright, the length of the Style, *fig. 3, 6*: ANTHERÆ of an oblong heart shape, yellow, incumbent, and upright, *fig. 4, 5.*

NECTARY, a small round single gland, placed on each side at the base of the longest Stamina; but the base of each of the shortest Stamina, is wholly surrounded by a glandular substance.

PISTILLUM: the GERMEN obscurely four corner'd, and oblong, *fig. 7*: STYLE very short, *fig. 8*: STIGMA, forming a little head, appearing as if cut off.

SEED-VESSEL: a Pod about two inches long, round, obscurely quadrangular, with a fine prominent line between each angle, of two cavities and two valves, *fig. 9.*

SEEDS numerous, oblong, brown, shining, finely grooved, obliquely cut off at each end, and partly buried in the dissepimentum on each side, *fig. 10.*

THE whole of this plant, on being rubbed, discovers a strong smell of Garlic, whence its name of *Alliaria*.

Medicinally, the leaves are recommended internally, as sudorifics and deobstruents, somewhat of the nature of Garlic, but much milder; and externally, as antiseptics, in gangrenes and cancerous ulcers: *Lewis's Disp. p. 78.*

Dietically it is used in fauces; and by the country people eaten with bread and butter: *Raii Hist. Pl. et Syn.*

The seeds bruised, and put up the nostrils, are said to promote sneezing: *Raii Hist. Pl. p. 792.*

The *Curculio Alliariæ*, *Linn. Faun. Suecic. n. 58c*, perforates and dwells in the stalks of this plant: *Fl. Suecic.*

If eaten by Cows, which it appears to be from LINNÆUS's experiments, it will be liable to give a disagreeable taste to the milk; should this happen, the Farmer will easily destroy it, as it is a biennial.

It grows very common by hedge sides; flowers in April and May.

SCOPOLI observes that it does not retain the generic character of an *Erysimum*, wherefore he arranges it as a *Sisymbrium*.

ARABIS THALIANA. PODDED MOUSE-EAR.

ARABIS *Linnei Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Glandulæ nectariferæ-4, singulæ intra Calycis foliola, squamæ instar reflexæ.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ARABIS *thaliana* foliis radicalibus ovato-lanceolatis, dentatis, punctato-scabris.

ARABIS *thaliana* foliis petiolatis lanceolatis integerrimis. *Linn. Syst. Vegetab. p. 501. Fl. Suecic. n. 605.*

ARABIS foliis radicalibus petiolatis, ovatis, dentatis caule subnudo ramofo. *Haller hist. n. 452.*

TURRITIS vulgaris ramofo. *Raii Syn. 294, Mouse-ear.*

BRASSICA spuria minima, foliis hirsutis et glabris. *Raii Syn. ed. 2. 166.*

BURSÆ pastoris similis filiquofo major et minor. *Baubin Pin. 108.*

PILOSELLA filiquofo. *Thal. tab. 7*

PARONYCHIA major et altera minor. *Parkinson 556. Hudson Fl. Angl. p. 255.*

RADIX annua, simplex, fibrofa, albida.

FOLIA radicalia oblongo-ovata, petiolata, dentata, prefertim prope basin, hirsuta, utrinque scabra punctis prominulis, caulina sessilia dentata, fig. 1, 2; hirsuties ad basin foliorum simplex, ad marginem et superficiem bi et trifurcata.

CAULIS semipedalis ad pedalem, erectus, subramosus, teres, rore glauco tectus, hirsutus, ramuli alterni, nutantes.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, hirsutulis, fig. 3. auct.

COROLLA: PETALA quatuor, calyce duplo longiora, apice dilata, integra, obtusa, fig. 4. auct.

STAMINA: FILAMENTA quatuor subulata quorum duo breviora, fig. 5; ANTHERÆ flavæ, parvæ.

PISTILLUM: GERMEN oblongum, tenue; STYLUS brevissimus longitudine Stamini; STIGMA obtusum, fig. 6.

PERICARPIUM: filiqua tenuis, semuncialis, bivalvis, fig. 7, 8, continens

SEMINA plurima, flavescencia, fig. 9.

ROOT annual, simple, fibrous, whitish.

LEAVES of an oblong oval shape, standing on foot-stalks, indented, especially near the base of the leaf, hairy, rough on each side, with little prominent points; leaves on the stalk sessile and indented, fig. 1 2; the hairs at the base of the leaf simple, those at the edges and on the surface dividing into two or three forks.

STALK from six to twelve inches high, upright, somewhat branched, round, crooked, covered with a bloom, hairy, the little branches alternate and drooping.

CALYX: a PERIANTHIUM of four leaves, which are oval, concave, and slightly hairy, fig. 3, mag.

COROLLA of four PETALS, twice the length of the Calyx, dilated at top, entire and obtuse, fig. 4.

STAMINA: four tapering FILAMENTS, two of which are shorter than the others, fig. 5; ANTHERÆ small and yellow.

PISTILLUM: GERMEN oblong, slender, STYLE very short, equal in height to the Stamina; STIGMA blunt, fig. 6.

SEED-VESSEL: a small slender pod about half an inch long, of two valves, fig. 7, 8, containing

SEEDS. Several yellowish seeds, fig. 9.

AT first sight this little plant, in its larger state, forms some resemblance to the *Shepherds Purse*; and when small, may be overlooked or mistaken for the *Draba verna*, particularly as it grows in similar situations; but by its slender pods it may readily be distinguished.

We have it frequent enough on our walls, and sometimes on dry ground, about town: and it may be found in great abundance on the south side of *Greenwich Park Wall*, the top of which, facing the late *SIR GREGORY PAGE*'s, is in particular parts almost covered with it; while the bottom of it, is at the same time, beautifully ornamented with the *Geranium Cicutarium*.

It flowers in March and April, and the seed is ripe in May.

No particular virtues or uses are ascribed to it.

Like all other plants (which is a circumstance that cannot be too often inculcated into the mind of the young Botanist) it varies very much in size; sometimes being not more than an inch or two in height, and at other times more than a foot.

The *Glandulæ Nectariferæ*, often found at the base of the Stamina, in the plants of the Class *Tetradynamia*, and which according to *LINNÆUS* form the character of the Genus *Arabis*, are in this species so very minute, as scarcely to be discerned with a magnifier



Arabis Thaliana?



Geranium molle



Sarcombulp

GERANIUM MOLLE. COMMON DOVES-FOOT CRANES-BILL.

GERANIUM *Linnaei* Gen. Pl. MONADELPHIA DECANDRIA.

Monogyna. Stigmat. 5. Fructus rostratus, 5-coccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *molle* pedunculis bifloris, foliisque floralibus alternis, petalis bifidis, calycibus muticis, caule erectiusculo. *Linnaei Syst. Vegetab. p. 515. Sp. Pl. p. 955. Fl. Suecic. p. 577.*

GERANIUM foliis mollissimis, hirsutis, reniformibus, semiquinquefidis, lobis semitripartitis, obtusis. *Haller hist. n. 939.*

GERANIUM *molle. Scopoli Fl. Carniol. an nostra planta?*

GERANIUM columbinum villosum, petalis bifidis purpureis. *Vaill. Paris. 79. t. 15. fig. 3.*

GERANIUM columbinum. *Ger. emac. 938.*

GERANIUM columbinum vulgare. *Parkinson 706. Raii Syn. p. 359, Doves-foot, or Doves-foot-Cranes-bill.*

GERANIUM folio malvæ rotundo. *Baubin. Pin. 318.*

Hudson Fl. Angl. p. 265.

Lightfoot Fl. Scot. p. 370.

RADIX annua, fusiformis, simplex.

CAULES plures, ut plurimum procumbentes, teretes, rubicundi, dodrantes aut pedales, villosi, ramosi.

FOLIA radicalia petiolis longis, teretibus, villosis, infidentia, subrotunda, villosa, subtus venosa, septemfida, laciniis incis, caulina alterna in lacinias pauciores, angustiores et acutiores divisa.

STIPULÆ ad singula genicula quaternæ, membranaceæ, marescentes.

PEDUNCULI longitudine et forma petiolorum usque oppositi, bifidi, biflori: pedicelli pedunculo triplo fere breviores, stipulis minoribus ad basin cinctis, ad lentem subviscosis.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-acutis, trinerviis, pilosis, inæqualibus, brevi mucrone, rufo, non admodum acuto, terminatis, fig. 1.

COROLLA: PETALA quinque purpurea, obcordata, calyce paulo longiora, unguibus parvis, utrinque ciliatis.

STAMINA: FILAMENTA decem, alba, æqualia, basi lata, vix coalescentia: ANTHERÆ cœruleæ, fig. 2.

PISTILLUM: GERMEN quinquangulare: STYLUS subulatus, viscosus: STIGMATA quinque, rubra, reflexa, fig. 3, 4.

SEMINA quinque, ovata, glabra, fig. 5, 7, 8. Arillo rugoso tecta, fig. 6.

ROOT annual, tapering, and simple.

STALKS several, procumbent, round, of a reddish colour, from nine inches to a foot in length, villous, and branched.

LEAVES: those next the root sitting on long, round, villous foot-stalks, of a roundish form, hoary, and veiny underneath, deeply divided into seven segments, which are jagged: the leaves on the stalk alternate, divided into fewer segments, which are narrower and more pointed.

STIPULÆ four at each joint, membranous, and withering.

FLOWER-STALK: general flower-stalk the length and form of the leaf-stalks, and growing opposite to them, bifid, and supporting two flowers: partial flower-stalks nearly three times shorter than the general one, surrounded at their base by smaller stipulæ, some of the hairs on which appearing glandular if viewed with a glass.

CALYX: a PERIANTHIUM of five leaves, oval, pointed, having three ribs, hairy, unequal, and terminated by a reddish and somewhat blunt point, fig. 1.

COROLLA: five purple PETALS, inversely heart-shaped, a little longer than the Calyx, the claws small, and edged on each side with hairs.

STAMINA: ten white FILAMENTS, of an unequal length, broad at bottom, but not perceptibly united: ANTHERÆ blue, fig. 2.

PISTILLUM: GERMEN five-cornered: STYLE tapering, with glandular hairs: STIGMATA five, of a red colour, and turning back, fig. 3, 4.

SEEDS five, oval and smooth, fig. 5, 7, 8, covered with a wrinkled Arillus, fig. 6.

THE *Geranium molle* is the most common of all our *Geraniums*, and one of the earliest in blossom, beginning to blow in April, and continuing through the Summer. Its most natural situation is on a dry bank; yet it very often is found in pastures, and under walls. If growing by itself, the stalks are usually procumbent; among other plants it is often drawn upright.

It varies very much in size; the flowers also vary much both in size and colour. In the *Lawn* before *Chelsea Hospital*, I have noticed this plant almost as large as the *pyrenaicum* of LINNÆUS. Its flowers are sometimes white, sometimes pale red, with many gradations of purple.

It is most likely to be mistaken for the *rotundifolium* and *pyrenaicum*, neither of which are common plants with us: in what respect it differs from these, we shall mention when they come to be described.

We may remark here, that the *Arilli*, or coverings of the seeds, fig. 6, are curiously wrinkled; but the seeds themselves are perfectly smooth.

MALVA SYLVESTRIS. COMMON MALLOW.

MALVA *Linnaei* Gen. Pl. MONADELPHIA POLYANDRIA.

Cal. duplex : exterior triphyllus. Arilli plurimi monospermi.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

MALVA *sylvestris* caule erecto herbaceo, foliis septemlobatis acutis, pedunculis petiolisque pilosis. *Linnaei*

Syst. Vegetab. p. 520.

MALVA caule erecto ; foliis lobatis : lobis ferratis, quinis et septenis. *Haller hist. n. 1069.*

MALVA *sylvestris*. *Scopoli Fl. Carniol. n. 859.*

MALVA *sylvestris* folio finuato, C. *Baubin. pin. 314.*

MALVA vulgaris *Parkinson.*

MALVA *sylvestris* *Gerard. Raii Syn. p. 269, Common Mallow. Hudson Fl. Angl. p. 268.*

RADIX perennis, albida, crassitie digiti, in terram alte descendens, fibris paucis majusculis instructa, sapore dulci et viscido prædita.

CAULIS plerumque erectus, pedalis ad tripedalem, teres, pilosus, ramosus.

FOLIA petiolis prælongis hirsutis insidentia, quinque aut septemlobata, ad basin maculâ purpurea sæpe notata, subplicata, crenata, superne lævia, subtus hirsutula.

FLORES ampli, purpurei, axillares, subumbellati, venis saturatioribus picti.

STIPULÆ duæ ad basin cujusvis petioli.

CALYX : PERIANTHIUM duplex, persistens, hirsutum, exterius triphyllum, foliolis lanceolatis, *fig. 1* ; interius semiquinquefidum, majus, laciniis ovato-acutis, *fig. 2.*

COROLLA : PETALA quinque, obcordata, præmorfa, basi coalita, plana, *fig. 3.*

STAMINA : FILAMENTA plurima in tubum purpurascentem coalita, *fig. 5*, superne laxa, reflexa : ANTHERÆ reniformes, albidæ, *fig. 6*, auct.

PISTILLUM : GERMEN orbiculatum : STYLUS cylindraceus, brevis : STIGMATA plurima, setacea, rubicunda, longitudine Styli, *fig. 7, 8, 9.*

SEMINA plurima reniformia Arillo introrsum dehiscente tecta, *fig. 10, 11.*

ROOT perennial and whitish, the thickness of ones finger, striking deep into the earth, thinly furnished with large fibres, and having a sweetish viscid taste.

STALK generally upright, from one to three feet high, round, hairy and branched.

LEAVES standing on long hairy foot-stalks, having five or seven lobes, often marked at bottom with a purple spot, somewhat folded, crenated or notched at the edges, smooth above and slightly hairy beneath.

FLOWERS large, purple, growing in a kind of umbell in the bosoms of the leaves, painted with deeper veins of the same colour.

STIPULÆ two at the bottom of each foot-stalk of the leaf.

CALYX : a double PERIANTHIUM continuing, and hairy ; the outer one composed of three leaves, which are narrow and pointed, *fig. 1* ; the inner one larger and divided into five segments, which are broader and pointed, *fig. 2.*

COROLLA : five PETALS heart-shaped, a piece of the apex as if bitten out, uniting at bottom, and flat, *fig. 3.*

STAMINA : FILAMENTS numerous, uniting into a purplish tube, *fig. 5*, above unconnected and turning back : ANTHERÆ kidney-shaped, and whitish, *fig. 6*, magnified.

PISTILLUM : GERMEN orbicular : STYLE cylindrical, and short : STIGMATA numerous, thread-shaped, of a red colour, the length of the Styles, *fig. 7, 8, 9.*

SEEDS numerous, kidney-shaped, covered with an Arillus which opens inwardly, *fig. 10, 11.*

EVERY part of this plant, but more particularly the root, contains within it a juice somewhat mucilaginous, hence it has been ranked by writers on the *Materia Medica* among the emollients, and considered as serviceable in all cases where emollients are proper : but it has more particularly been used in diseases of the urinary passages, where the parts have been either injured by calculous concretions, or inflamed from other causes ; as in the stone, gravel, bloody urine, strangury, gonorrhæa, &c. In cases of cough, hoarseness, roughness of the fauces, &c. it has also been recommended. Its use however has been much superseded by the *Marshmallow*, which possesses all its valuable qualities in a superior degree. The method of using it is by making a decoction of the leaves or root : or it may be made into a syrup in the manner of *Marshmallows*. In fomentations and clysters the leaves are also not unfrequently used.

Mallows were formerly eaten as food by the *Romans* ; not the species here figured however ; but according to HALLER, the *Malva rotundifolia italica flore amplo* of TOURNEFORT was used for this purpose. This author also informs us, that a tree of the *Mallow* kind is in like use with the *Egyptians* ; and that the *Chinese* mix dried *Mallow* leaves with their food.

Cattle do not appear to be fond of it ; and as it is a strong growing plant, it often does much harm in good rich ground : the root however, though perennial, is not of the creeping kind, and consequently is eradicated without much difficulty. The best instrument will be found to be what is called a docking-iron, of which we shall give an account in describing some one of the *Docks* ; and the best time for taking them up is late in the Autumn, when the herbage being eat down pretty close, the leaves of the *Mallow* are easily discerned, and the herbage suffers little from the operation.

The *Mallow* flowers from June to the end of Summer. The Antheræ before the opening of the flower, while they are yet entire, afford a very pleasing spectacle, and are figured by GREW, in a magnified state, in his *Anatomy of Plants*.



Malva sylvestris



Fumaria officinalis

FUMARIA OFFICINALIS. COMMON FUMITORY.

FUMARIA *Linæi. Gen. Pl. DIADELPHIA HEXANDRIA.*

Cal. dihyllus, Cor. ringens. Filamenta 2, membranacea, fingula Antheris 3.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS SEU AD SINGULOS FLORES SINGULIS.

FUMARIA *officinalis* pericarpis monospermis racemosis, caule diffuso. *Linæi. Syst. Vegetab. p. 430. Sp. Pl. p. 984. Fl. Suecic. p. 245.*

FUMARIA foliis multifidis; lobis subrotundè lanceolatis; fructibus monospermis. *Haller. hist. helv. n. 346.*

FUMARIA *officinalis. Scopoli Fl. Carniol. p. 47.*

FUMARIA officinarum et Dioscoridis. *Baubin pin. 143.*

FUMARIA purpurea. *Gerard. emac. 1088.*

FUMARIA vulgaris. *Parkinson. 287. Raii Syn. p. 284. Fumitory.*

Hudson Fl. Angl. p. 270.

Lightfoot Fl. Scot. p. 379.

RADIX annua, fibrosa, ex flavo-fusca.

CAULES dodrantes aut cubitales, diffusi, angulosi, geniculis tumidis, ramosi, glabri, teneri, subflexuosi.

FOLIA alterna, petiolata, duplicato-pinnata, glauca, pinnulis trilobatis, mucronatis, lobis extimis bifidis aut trifidis.

FLORES racemosi, purpurei, racemi erecti, multiflori, floribus sparsis, pedunculatis, pedunculis clavatis.

BRACTEÆ lanceolatae, apice purpureæ, singulo pedunculo subjectæ, fig. 1.

CALYX: PERIANTHIUM dihyllum; foliis oppositis, æqualibus, lateralibus, acutis, denticulatis, deciduis, fig. 2, 3.

COROLLA oblonga, ringens, palato prominente faucem claudente. *Labium superius* apice dilatatum, carinatum, subtus concavum, margine paululum reflexâ, basi obtusâ, incurvatâ. *Labium inferius* longitudine labii superioris et simile quoad apicem, cæteroquin lineare, basi paulo latiore. *Petala lateralia* sive alæ apice cohærent faucemque tetragonam efformant supra infraque tridentatam, fig. 4, 5, 6, 7.

STAMINA: FILAMENTA duo, alba, membranacea, basi lata, germen amplectentia: ANTHERÆ tres, flavescentes in singulo filamento, terminales, fig. 8.

PISTILLUM: GERMEN ovatum: STYLUS filiformis longitudine staminum, adscendens: STIGMA compressum, villosum, fig. 9.

PERICARPIUM Silicula unilocularis, subcordata, fig. 10.

SEMEN unicum, subrotundum, fig. 11.

ROOT annual, fibrous, of a yellowish brown colour.

STALKS from nine to seventeen inches in height, spreading, angular, enlarged at the joints, branched, smooth, tender, and somewhat bending.

LEAVES alternate, standing on foot-stalks, twice pinnated, of a blueish green colour, the pinnulæ or little leaves trilobate, terminating in a short point, the outermost lobes bifid or trifid.

FLOWERS growing in a kind of spike, of a purple colour; spikes upright, supporting many flowers, which are placed, without any regular order, on foot-stalks, thickest at the extremity.

FLORAR-LEAF lanceolate, and purple at top, placed under each flower-stalk, fig. 1.

CALYX: a PERIANTHIUM of two leaves, the leaves opposite, æqual, lateral, pointed, with little teeth at the edges, and deciduous, fig. 2, 3.

COROLLA oblong, ringent, the palate prominent, and closing the mouth: *upper lip* dilated at the tip, keel-shaped, hollow beneath, the margin turning a little upwards; the base obtuse, and curled inward: the *lower lip* the same length as the upper one, and similar as to the top, in other respects linear; the base a little broader: the *lateral Petals*, or wings, cohere at top, and form a four corner'd mouth, in which there are three divisions on the upper and lower part, fig. 4, 5, 6, 7.

STAMINA: two white FILAMENTS, membranous, broad at bottom, and embracing the germen: ANTHERÆ three, of a yellowish colour, sitting on the tops of the filaments, fig. 8.

PISTILLUM: GERMEN oval: STYLE thread-shaped, the length of the stamina, rising upwards: STIGMA compressed, and villous, fig. 9.

SEED-VESELL a small Pod of one cavity, somewhat inversely heart-shaped, fig. 10.

SEED one, of a roundish figure, fig. 11.

FUMITORY in its flower and fruit, has certainly a considerable affinity with the papilionaceous plants, although that affinity is not very obvious at first sight; and at the same time, some parts of its structure seem altogether peculiar to itself. The posterior part of the corolla terminates in a kind of nectarium, like what we observe in the Violet. But the part in which it differs most from the papilionaceous flowers, is its calyx, which consists of two small lateral leaves, more like stipulæ than a calyx. The filaments, as in papilionaceous flowers, are distinctly divided into two bodies, on the top of each of which, in a very singular manner, are placed three antheræ, each standing on a little footstalk. The seed-vessel in this species, has not much resemblance to those of the papilionaceous tribe; but in some of the other species it has a very considerable one, as in the *Claviculata*. This difference of structure in the seed-vessels, caused RAY to divide the plants of this genus, and place them in different classes: but by LINNÆUS they are classed together with the diadelphous plants.

When this plant grows luxuriantly, and near other plants, the leaves acquire a power of acting as tendrils, and supporting the plant: this is the principal variety to which it is subject.

It grows very commonly in corn-fields, gardens, and on the sides of banks; flowering from April to July.

The juice of it given to two ounces, with whey, gently opens the body, purifies (as it is called) the blood, resists the scurvy, removes eruptions of the skin, and a too great redness of the face, if exercise in the spring be joined with it. The extract, or inspissated juice of it, appears to be the most eligible form, of which one dram loosens the belly; *Haller. hist. helv. p. 150.*

Kine and Sheep eat it; Goats not readily; Horses and Swine not at all.

TRIFOLIUM ORNITHOPODIOIDES. BIRDS-FOOT TREFOIL.

TRIFOLIUM *Linnaei* Gen. Pl. DIADELPHIA DECANDRIA.

Flores subcapitati. *Legumen* vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *ornithopodioides* leguminibus nudis octospermis subternis, calycibus duplo longioribus, caulibus declinatis. *Linnaei Syst. Vegetab.* p. 571. *Sp. Pl.* 1078.

MEDICAGO leguminibus ternatis, erectis, recurvis, descendens, pedunculo communi. *Hort. Cliff.* 376.

TRIFOLIUM filiquosum loto affine filiquis ornithopodii. *Pluk. phyt. t.* 68. *fig.* 1.

FÆNUMGRÆCUM humile repens, ornithopodii filiquis brevibus erectis. *Raii* Syn. p. 331, Fenu-
greek with Birds-foot Trefoil Pods, *tab.* 14. *fig.* 1. *Hudson Fl. Angl.* p. 282.

Oeder Fl. Dan. icon. 368.

Lightfoot Fl. Scot. p. 403.

RADIX simplex, albida, fibrosa, tuberculis obfita.

CAULES plures, procumbentes, in humidioribus aut pinguiore solo palmares aut sesquipalmares alias vix quadrantes, crassiusculi, et subrigidi.

FOLIA perexigua, ternata, obcordata, profunde denticulata et veluti erosa, lævia, venis rectis non ramosis, *fig.* 7.

STIPULÆ ad basin foliorum binæ, magnæ, venosæ, acuminatæ.

FLORES axillares, carnei, pedunculis brevissimis infidentes, terni, bini aut etiam solitarii.

CALYX: PERIANTHIUM tubulosum, quinquedentatum, persistens, læve, striatum, dentibus acuminatis, nudis, duobus superioribus longioribus, *fig.* 1.

COROLLA papilionacea: VEXILLUM reflexum: ALÆ divergentes, *fig.* 2.

PISTILLUM: GERMEN oblongum, villosum, *fig.* 3.

PERICARPIUM: LEGUMEN magnum, calyce duplo longius, apice mucronatâ incurvâ, in duas valvas ægre dehiscens, *fig.* 4, 5.

SEMINA sex ad decem, difformia, pallida, maculata, *fig.* 6.

ROOT simple, whitish, fibrous, and beset with little knobs or tubercles.

STALKS numerous and procumbent, in a moist or rich soil from four to six inches in length, but most commonly from two to three, thickish for the size of the plant, and somewhat rigid.

LEAVES very small, growing by threes, inversely heart-shaped, deeply notched, so as to appear as if gnawed, smooth, the veins straight, and not branched, *fig.* 7.

STIPULÆ at the base of the leaves two, large, veiny, and pointed.

FLOWERS axillary, pale red, sitting on exceedingly short foot-stalks, growing three or two together, sometimes singly.

CALYX: a PERIANTHIUM which is tubular, with five teeth, permanent, smooth, striated, the teeth acuminate, naked, the two uppermost longest, *fig.* 1.

COROLLA papilionaceous; the STANDARD turning back; and the WINGS separating, *fig.* 2.

PISTILLUM: GERMEN oblong and villous, *fig.* 3.

SEED-VESSEL, a large LEGUMEN, twice the length of the Calyx, the tip ending in a point and bending downward, with difficulty splitting into two valves, *fig.* 4, 5.

SEEDS from six to ten, irregular, pale and spotted, *fig.* 6.

THIS little plant is perhaps more common in this country than is generally imagined, and has probably been overlooked from its minuteness.

It appears to delight in a dry, exposed, gravelly or sandy soil, in which the *Arenaria rubra*, *Trifolium subterraneum*, *Festuca ovina*, and *Sagina erecta* usually grow.

I have found it plentifully in *Totbill-fields*, *Westminster*, and on *Blackbeath*. Mr. HUDSON mentions its growing near *Penzance*, in *Cornwall*; and Mr. LIGHTFOOT in *Scotland*.

This plant is not like the *Trifolium subterraneum*, strikingly visible at a distance, but is to be discovered only by carrying the eye near the ground. When once found, there is no difficulty in distinguishing it from the other species. Its leaves are smooth, and much notched or gnawed at the edges; its flowers are pale red; its seed-vessels remarkably large, and growing most commonly two or three together, in which state they somewhat resemble a bird's claw, but not in so great a degree as the *Ornithopus*, or true *Birds-foot* does: the seed-vessels are sometimes single.

Cultivated in a garden, it grows to a much larger plant than is represented on the plate.

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Trifolium ornithopoides

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Trifolium subterraneum

TRIFOLIUM SUBTERRANEUM. SUBTERRANEOUS TREFOIL.

TRIFOLIUM *Linnaei* Gen. Pl. DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *subterraneum* capitulis villosis subquinquefloris, coma centrali reflexa rigida fructum obvolvete. *Linnaei Syst. Vegetab. p. 572. Sp. Pl. p. 1080.*

TRIFOLIUM *pumilum* supinum, flosculis longis albis. *Ph. Brit. Raii Syn. p. 327. tab. XIII. fig. 2.*

TRIFOLIUM *parvum* Monspeffulanum album cum paucis floribus. *J. Baubin. II. 380.*

TRIFOLIUM *album* tricoccum subterraneum reticulatum. *Morison. Hist. Ox. II. 138. s. II. t. 14. f. 5.*

TRIFOLIUM *subterraneum* seu folliculos sub terram condens. *Magnol. Botan. Monsp. 265. Gouan Fl. Monsp. p. 198.*

Hudson. Fl. Angl. p. 286. ed. 2. p. 328.

RADIX annua, simplex, fibrosa.

CAULES teretes, crassiusculi, ramosi, procumbentes et terræ velut appressi, villosi.

STIPULÆ ovato-lanceolatae, nervosae.

PETIOLI pedunculis paulo longiores, dense pilosi.

FOLIA terna, obcordata, mollia, villosa, integerrima, maculis purpureis sæpe variegata.

PEDUNCULI triflori aut quadriflori, peractâ florescentiâ versus terram inflexi.

FLORES albi, longi, procul conspicui.

CALYX: PERIANTHIUM oblongum, tubulatum, superne rubrum, quinque-dentatum, dentibus setaceis, pilosis, longitudine tubi, fig. 8, auct.

COROLLA oblonga, calyce duplo longior, alba: VEXILLUM venis dilute purpureis striatum: ALÆ conniventes, vexillo breviores: CARINA parva, brevis, alis inclusa, fig. 1.

PISTILLUM: GERMEN ovatum: STYLUS longus, tenuis, ascendens: STIGMA subrotundum, fig. 9.

PERICARPIUM: LEGUMEN subrotundum, monospermum, fig. 6.

SEMEN magnum, nitidum, spadiceum, fig. 7.

OBS. peractâ florescentiâ, pedunculi versus terram deflectuntur, et filamenta alba radiculis æmula extremitatibus suis exserunt, fig. 2. hæc vero terram nequaquam penetrant, at sursum eriguntur, mox apices stellatim expanduntur, fig. 3. et demum pericarpia obvolvunt, fig. 5.

ROOT annual, simple, and fibrous.

STALKS about three inches in length, frequently much longer, round, thickish, branched, procumbent, and as it were pressed to the ground, covered with soft hairs.

STIPULÆ oval, pointed, and ribbed.

LEAF-STALKS a little longer than the flower-stalks, and thickly covered with hairs.

LEAVES growing by threes, inversely heart-shaped, soft, villous, entire at the edges, and frequently variegated with purple spots.

FLOWER-STALKS supporting three or four flowers, and bending towards the earth as they decay.

FLOWERS white, long, and conspicuous at a distance.

CALYX: a PERIANTHIUM oblong, tubular, on the upper part red, having five long slender hairy teeth the length of the tube, fig. 8, mag.

COROLLA oblong, twice the length of the calyx, white: STANDARD striped with faint purple veins: WINGS closing, shorter than the standard: KEEL small, inclosed within the wings, fig. 1.

PISTILLUM: GERMEN oval: STYLE long, slender, ascending: STIGMA roundish, fig. 9.

SEED-VESSEL: a roundish Pod containing one seed, fig. 6.

SEED large, shining, of a purplish colour, fig. 7.

OBS. The flowering being over, the flower-stalks are bent towards the earth, and from their extremities put forth white filaments like roots, fig. 2. these do not however penetrate the earth, but rise upwards, their tips soon expanding into little stars, fig. 3. and finally inclose the seed-vessels, fig. 5.

NOTWITHSTANDING this plant appears to have obtained its name of *subterraneum* from a misapprehension of its oeconomy, we have chosen to retain it, rather than introduce confusion by altering a name so long established, especially as it has a tendency to excite an enquiry into the history of the plant.

RAY, in his *Hist. Pl.* has given a very accurate description of this plant, and related every circumstance which takes place in its oeconomy with his usual precision, except the following; “Flosculis delapsis aut marcescentibus calices ad pediculum reflectuntur et capitula sub terra condunt.” Here he asserts, that the capituli or little heads, are buried in the earth by means of the calyces or flower cups, but does not explain in what manner. In the third edition of his *Synopsis*, published by DILLENIUS, in a note added to this plant, contained in a parenthesis, the following account occurs: “Calices flosculis exaridis deorsum tendunt, radicesque extremitatibus suis agere videntur, mox vero laciniis eorum sursum versis peculiaribus fibris humo affiguntur, quo tempore unum alterumve semen terreni humoris beneficio intumescit, novæque plantæ productioni inservit.” Here is an attempt to account for the manner in which the heads are buried, founded however on a mistaken observation; for notwithstanding what authors have related, the seeds are not buried in any unusual way, nor is there any apparatus to effect it.

It must be allowed, that on the first examination of this plant, one would be tempted to think that young roots did actually spring from some part of the seed as it lay on the ground connected with the plant; but a more strict observation would discover, that those white filaments which have the appearance of roots, were not roots in reality; that they sprung from the end of the foot-stalk which supports the flowers, and not from either the calyx or seed; that instead of penetrating into the earth, they soon turned upward, put on a star-like appearance at their extremities, and finally inclosed the seed-vessels in a kind of prickly head.

There is certainly something very extraordinary in this process of nature, yet it does not appear to be useful in any other way, than as affording some kind of security to the seeds, which have not that thick coriaceous covering afforded to many of the Trefoils.

This species, from these singular circumstances, is easily distinguished from the others. It is not mentioned either by HALLER, SCOPOLI, or LINNÆUS in his *Fl. Succic.* but occurs in GOUAN’s *Fl. Monspeliac.*

It grows with us in exposed gravelly situations, particularly on heaths, and is distinguishable even at a distance by its white blossoms. It occurs on many parts of *Black-heath*; and flowers in June, July, and August.

TRIFOLIUM FRAGIFERUM STRAWBERRY TREFOIL.

TRIFOLIUM. *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longior, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM fragiferum spicis subrotundis, calycibus inflatis bidentatis reflexis, caulibus repentibus.

Linnaei Syst. Vegetab. p. 574. Sp. Pl. p. 1086. Fl. Suecic. p. 26.

TRIFOLIUM caule repente; spicis glabris; calycibus sericeis, ampullascentibus. *Haller. hist. n. 370.*

TRIFOLIUM fragiferum *Scopoli Fl. Carniol. n. 933.*

TRIFOLIUM fragiferum frificum. *Bauhin pin. 329.*

TRIFOLIUM fragiferum *Gerard. emac. 1208.*

Raii Syn. 329. Strawberry Trefoil.

Hudson Fl. Angl. p. 286.

RADIX perennis, simplex, alba, granulis obsita.

CAULES repentes, purpurascens, in longum exten-
si, ramosi, teretes, laeves.

STIPULÆ ovato-acuminatæ, reticulatæ.

PEDUNCULI folitarii, longi, teretes, laeves, erectius-
culi.

CAPITULI floriferi parvi, subrotundi, Trifolii repen-
tis æmuli, at minores, et magis purpurei; his
succedunt Capituli fructiferi, rotundi, carnei,
magnitudine nucis myristicæ parvæ, Fraga-
riis mentientes.

FOLIA terna, petiolis hirsutulis infidentia, obovata,
lævia, juniora vero leniter hirsuta, acute fer-
rata, mucronata, venis ad marginem divarican-
tibus.

CALYX: INVOLUCRUM polyphyllum, foliolis setaceis,
PERIANTHIUM tubulosum, villosum, supra gib-
bosum, quinquedentatum, dentibus tribus in-
ferioribus æqualibus acuminatis viridibus, duo-
bus superioribus paulo longioribus, subulatis,
rigidulis, apicibus rufis, *fig. 2. 3. 4.* pars gib-
bosa calycis demum mire mutatur, augetur,
inflatur, reticulata fit, et pericarpium obteg-
it; dentes vero retinet. *fig. 8.*

COROLLA papilionacea, purpurea; VEXILLUM Alis
longior, compressum, lineis roseis pictum;
ALÆ breves, minimæ; CARINA Alis brevior;
fig. 2: unusquisque flosculus paleâ concava,
subulata, suffulcitur. *fig. 1.*

STAMINA ut in plerisque hujus generis; ANTHERÆ
flavæ. *fig. 6.*

PISTILLUM: GERMEN ovatum: STYLUS longitudine
flaminum: STIGMA capitatum. *fig. 7.*

PERICARPIUM: LEGUMEN ovatum compressum dif-
permum aut monospermum, calyce inflato ob-
tectum. *fig. 9. 10.*

SEMEN ovato-reniforme, nitidum. *fig. 11.*

ROOT perennial, white, beset with little grains.

STALKS creeping, purplish, extending to a considerable
length, branched, round, and smooth.

STIPULÆ oval, with a long point, and reticulated.

FOOT-STALKS of the flowers, single, long, round,
smooth, and nearly upright.

HEADS of the flowers small, roundish, like those of the
Creeping or Dutch Clover, but smaller and
more purple: to these succeed the heads con-
taining the fruit, which are round, flesh co-
loured, the size of a small nutmeg, and very
much resembling Strawberries.

LEAVES growing three together, sitting on foot-stalks,
slightly hairy, inversly oval, smooth; the
younger ones sometimes hairy, sharply fer-
rated, and terminating in a short point; the
veins divaricating at the margin.

CALYX: INVOLUCRUM consisting of many setaceous fo-
lioli or little leaves: PERIANTHIUM tubular,
villose, gibbous above, having five teeth, the
three lowermost of which are equal, with
long green points, the two uppermost a little
longer, with tapering rigid reddish points,
fig. 2. 3. 4. the gibbous part of the calyx at
length becomes wonderfully changed, increa-
sed, swollen, reticulated, and covers the peri-
carpium; still however retaining its teeth.
fig. 8.

COROLLA papilionaceous, and of a purple colour;
the VEXILLUM longer than the Alæ, flat and
streaked with rose-coloured lines; the WINGS
short and very small; the KEEL shorter than
the Wings. *fig. 2.* each floscule is supported by a
small, tapering, hollow leaf, or palea. *fig. 1.*

STAMINA like most of those in this genus: ANTHERÆ
yellow. *fig. 6.*

PISTILLUM: GERMEN oval: STYLE the length of the
Stamina: STIGMA forming a little head. *fig. 7.*

SEED-VESSEL: an oval, flatten'd Legumen, con-
taining one or two seeds, and cover'd over
with the inflated calyx. *fig. 9. 10.*

SEED of an oval kidney shape and shining. *fig. 11.*

The beautiful Strawberry like appearance of the capituli or little heads, containing the seed of this plant, and which arise from a very peculiar circumstance, the inflation or enlargement of the calyx after the blossom is over, in a very striking manner distinguishes this species from the *Trifolium repens*, to which in its general habit it is very nearly allied. It differs from the *repens* also in several other respects; the whole plant is smaller; the blossoms are of a more purple hue; its place of growth is also somewhat different: the *repens* seems to delight in a dry gravelly soil, the *fragiferum* on the contrary, most usually occurs in a moist situation; nor is it so common a plant as the *repens*; yet it abounds in many places about London. I have observed it plentifully in the lanes about *Hornsey*, also near *Pancras*, and in many other parts. It flowers and produces its seeds in August.

It may with great ease be cultivated in a Garden, if it should be thought worthy a place there.

HALLER quotes an Author, * who says, they have begun to cultivate it in Ireland for Cattle, and that when sown, it has grown to the length of seven feet: without controverting this fact, which borders a little on the incredible, we would observe, that the *Dutch Clover* is certainly a much stronger plant, and to be preferred in a dry situation: in moist situations, there are many of the Grasses which may be cultivated to far greater advantage, as neither of these Trefoils produce much of a crop 'till late in the Summer.

Trifolium fragiferum





Lotus corniculatus

LOTUS CORNICULATUS. BIRDS-FOOT TREFOIL.

LOTUS *Linnaei* Gen. Pl. DIADELPHIA DECANDRIA.

Legumen cylindricum, strictum. *Alæ* sursum longitudinaliter conniventes.
Cal. tubulosus.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LOTUS *corniculatus* capitulis depresso, caulibus decumbentibus, leguminibus cylindricis patentibus;
Lin. Syst. Vegetab. p. 576.

LOTUS floribus umbellatis; filiquis cylindricis; rectissimis. *Haller. hist. helv.* p. 572. n. 3.

LOTUS *corniculatus*. *Scopoli Fl. Carniol.* p. 86.

LOTUS five melilotus pentaphyllos minor glabra. *Bauhin Pin.* 332.

TRIFOLIUM filiquosum minus. *Gerard. emac.* 1191. *Raii Syn.* 334, Birds-foot Trefoil.

Hudson Flor. Angl. p. 288.

Lightfoot Flor. Scot. p. 411.

RADIX perennis, subfusiformis, in terram alte descendens.

CAULES plurimi, tenues, procumbentes, subquadrati, pedales, ramosi.

FOLIA terna, ovata, mucronata, foliolo medio basi angustata, glabra aut hirsutula.

STIPULÆ duæ, foliis quodammodo similes at magis latæ et acuminatæ.

FLORES subumbellati, ad 12, petiolis nudis longis infidentes.

CALYX: PERIANTHIUM tubulosum: infra medium annulo prominulo cinctum, quinque-dentatum, dentibus setaceis, hirsutulis, duobus superioribus sursum tendentibus, tribus inferioribus reflexis, fig. 1.

COROLLA papilionacea, flava: VEXILLUM reflexum, superne aurantiacum, interne ad basin lineis octo circiter notatum: ALÆ duæ, flavæ, apicibus obtusis: CARINA inferne gibba, ascendens, acuminata, fig. 2.

STAMINA: FILAMENTA decem, novem in tubum coalita, simplici libero, apicibus omnium dilatatis, albis: ANTHERÆ parvæ, flavæ, fig. 3, 4, 5, 6.

PISTILLUM: GERMEN tenue, teretiusculum, incurvum: STYLUS ascendens, rectus: STIGMA minimum, fig. 7, 8, 9.

PERICARPIUM: LEGUMEN cylindricum, bivalve, isthmis quasi interceptum, more raphani, fig. 10.

SEMINA plurima, ultra xx, parva, subreniformia; maculata, fig. 11, 12.

ROOT perennial, tapering, striking deeply into the earth.

STALKS several, slender, procumbent, somewhat square, a foot in length, and branched.

LEAVES growing three together, ovate, terminating in a short point; the middle leaf narrowed at its base, smooth or slightly hirsute.

STIPULÆ two, in some degree like the leaves, but broader, and more pointed.

FLOWERS growing somewhat in the form of an umbel, to twelve, sitting on long foot-stalks.

CALYX: a PERIANTHIUM tubular, below the middle surrounded by a prominent ring, having five teeth, which are setaceous and a little hairy, the two uppermost rising upward, the three lowermost bending back, fig. 1.

COROLLA papilionaceous and yellow: the VEXILLUM turned back; on its upper part of an orange colour, underneath, at its base, marked with about eight lines: WINGS two, yellow and blunt at the tips: KEEL gibbous below, rising upwards, and pointed, fig. 2.

STAMINA: ten FILAMENTS, nine uniting in a tube; the single one loose; the tips of all of them dilated, and white: ANTHERÆ small and yellow, fig. 3, 4, 5, 6.

PISTILLUM: GERMEN slender, roundish, and bent downward: STYLE rising upwards, and straight: STIGMA very minute, fig. 7, 8, 9.

SEED-VESSEL: a cylindrical LEGUMEN of two valves, divided into a kind of cells, somewhat in the manner of the Radish, fig. 10.

SEEDS numerous, more than twenty, small, somewhat kidney-shaped, and spotted, fig. 11, 12.

THE following extract relative to this plant, is selected from the first volume of Mr. ANDERSON'S *Essays relating to Agriculture and rural affairs*, page 419.

While the practical remarks, and judicious hints, scattered through this performance, shew the author to be a man of real genius, and far superior to the common run of writers on these subjects, we cannot but regret, that a want of botanic knowledge pervades the whole, and in some degree, defeats the laudable design of the ingenious essayist. In no one plant, is this inaccuracy more observable than in the present, which we shall point out; hoping, that as the author has in some parts of his work, shewn himself well acquainted with chemical knowledge, some future edition may demonstrate, that he thought *Botany* equally worthy of his attention.

"MILK-VETCH, liquorice-vetch, or milk-wort, as it is differently called,—the **Astragalus glycyphyllos* of Hudson, is a plant common in every part of the island; although it has never yet, that I have heard of, been attempted to be cultivated."

"The general appearance of this humble plant, is, in some respects, very like that of the common white-clover; although its leaves upon a nearer examination are not exactly similar to them. From the top of the
"root

*It is very evident, from the whole tenor of the authors description, that he has given a wrong name to the plant he wished to recommend. The plant he describes, is the *Lotus corniculatus* of HUDSON, or *Birds-foot Trefoil*, and not the *Astragalus Glycyphyllos*, or *Liquorice-Vetch*, which is by no means a common plant.

“ root there comes out in the spring a great number of small shoots that spread along the surface of the ground every way around it; from which arise a great many clusters of bright yellow flowers, exactly resembling those of common broom in shape, size and colour; which are succeeded by hard round pods, filled with small kidney-shaped seeds. And as three or four of these pods usually adhere to one foot-stalk, from which they spread open at the points, a little resembling the fingers of an open hand; they have from this circumstance been by the vulgar in some places called ladies-fingers; while others more struck with the resemblance that these pods bear to the foot of a bird, have distinguished it by the name of crow-toes; and others from the appearance of the blossom and the part where the plant is found, have called it *feal*, or by corruption *fell* broom. It is found plentifully almost every where in old grass-fields; but as every species of domestic animal eats it, almost in preference to every other plant, it is seldom allowed to come to flower in pasture grounds, unless where they have been accidentally saved from the cattle for some time; so that it is only about the borders of corn-fields, or the sides of inclosures to which cattle have not access, that we have an opportunity of observing it. As it has been imagined that the cows which feed on these pastures where this abounds, yield a great quantity of rich milk, the plant has from that circumstance obtained its most proper English name of milk-vetch.”

“ But the circumstance that first recommended it to my notice, was the having observed that it grows and flourishes in poor barren ground where almost no other plant can be made to live. I have seen it in the midst of a barren moor, where the soil was so poor that even heath, or ling (*erica communis*) could hardly grow, and upon bare obdurate clays where no other plant could be made to vegetate; insomuch that the surface remained entirely uncovered, unless where a plant of this kind chanced to be established; yet even in these unfavourable circumstances, it flourished with an uncommon degree of luxuriance, and yielded as tender and succulent, though not such abundant shoots, which assumed as fine a verdure as if they had been reared in the richest manured fields. I have likewise seen it in dry and barren sands, where almost no other plant could be made to live; and there also it sends out such a number of healthy shoots all round, as covers the earth with the closest and most beautiful carpet that can be desired.”

“ The stalks of this plant, as has been said, are weak and slender, so that they spread upon the surface of the ground, unless they are supported by some other vegetable. In ordinary soils, they do not grow to a great length, nor produce a great many flowers,—branch out a good deal, but carry few or no flowers or seeds; and as I first took notice of it only on poor soils, it was purely with a view to pasture that I first resolved to cultivate it; and with this intention sowed it with my ordinary hay-seeds, expecting no material benefit from it till I desisted from cutting my field; but found myself agreeably disappointed, as it grew the first season as tall as my great clover, and formed the finest hay I ever saw; it being scarce distinguishable from Lucerne, but by the slenderness of the stalk and proportional smallness of the leaf.”

“ It is nearly allied to Lucerne in its botanical characters; and resembles that valuable plant in many other respects. Like it, it is perennial,—sends down a long root to a great depth in the soil, which is at first small and gradually increases with age, till it at length becomes of a very considerable size; so that it is several years after it is first sowed before it attains its full perfection: but when it is once established, it probably remains there for a prodigious number of years in full vigour, and produces annually a great quantity of fodder. In autumn 1773, I cut the stalk from an old plant of it that grew in a very indifferent soil; and after having dried it thoroughly, found that it weighed fourteen ounces and a half. Like Lucerne, it is never affected with the severest droughts that we experience: but it does not resemble it in delicateness of constitution, as it thrives in the stiffest clays, and is able to stand its ground among grass or any other weeds.”

“ As this plant only produces seeds in abundance upon poor hungry soils that could hardly afford nourishment to any other, and as the stalks spread out close upon the surface of the ground, it seems to me, that the greatest barrier to the cultivating thereof, will be the difficulty of obtaining the seeds in abundance; as in these circumstances they must always be gathered by the hand: but as it is an abiding plant, those who have such soils as most stand in need of having plants of this sort sowed upon them, may be at a little trouble and expence to get them once properly laid down with this grass, as it will be only once that they will need to do it. But it is possible, that future experience may discover some easier way of procuring the seeds than hath as yet occurred to me.

“ The stalks of this plant die down entirely in winter, and do not come up in the spring till the same time that clover begins to advance; so that it can never be of use but as a summer pasture:—Neither does it advance very fast after it is cut down, or eat over even in summer.—But the great closeness of the shoots may probably counterbalance that defect.”

Whether this plant be deserving of the encomiums here bestowed on it, the practical farmer must determine. There appears no reason why seed might not be obtained from it, as well as from any of the other papilionaceous plants; and it should seem, that those sorts of land which are not rich enough to bear Clover and other strong growing plants, might be much improved by the introduction of the birds-foot Trefoil.

In wet and boggy situations this plant grows much taller and becomes very hairy.

The insect called by LINNÆUS *Thrips glauca*, sometimes renders the flowers tumid and monstrous. *Lightf. Fl. Scot.*



Medicago lupulina

MEDICAGO LUPULINA. HOP MEDICK.

MEDICAGO *Linnæi* Gen. Pl. DIADELPHIA DECANDRIA.

Legumen compressum, cochleatum. *Carina* corollæ a vexillo deflectens.

Raii Syn. Gen. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

MEDICAGO *lupulina* spicis ovalibus, leguminibus reniformibus monospermis, caulibus procumbentibus.

Linn. Syst. Vegetab. p. 577. Flor. Suecic. n. 678.

MEDICA caule diffuso, capitulis hemisphæricis, filiquis reniformibus. *Haller hist. No. 380. v. 1.*

MEDICA *lupulina. Scopoli Fl. Carniol. No. 940.*

TRIFOLIUM pratense luteum, capitulo brevior. *Baubin. pin. 328.*

TRIFOLIUM luteum lupulinum. *Gerard emac. 1186. Raii Syn. 331. Melilot Trefoil.*

TRIFOLIUM montanum lupulinum. *Parkinson 1105.*

Hudson. Fl. Angl. ed. 1. p. 282. ed. 2. p. 330.

Lightfoot. Fl. Scot.

RADIX biennis, fusiformis, paucis fibrillis instructa, profunde penetrans.
CAULES procumbentes, numerosi, pedales, subangulosi, hirsutuli, ramosi.
FOLIA terna, obcordata, aut obovata, obtusiusculè dentata, mucrone brevi latâ terminata, mollia, pubescentia, averâ præcipue parte.
STIPULÆ duæ, ovato-lanceolatae, acuminatae, denticulatae.
SPICULÆ primum subrotundae, postea ovals, apicibus subincurvatis, basi ad unum latus nudis.
CALYX: PERIANTHIUM monophyllum, subpilosum, quinquedentatum, dentibus inæqualibus, tribus inferioribus longioribus, duobus superioribus brevioribus, remotis.
COROLLA lutea, parva, Calyce longior; VEXILLUM reflexum, emarginatum, inferne patens; ALÆ et CARINÆ minimæ, subæquales.
STAMINA: FILAMENTA connexa: ANTHERÆ luteæ.
PISTILLUM: GERMEN subovatum compressum: STYLUS longitudine Stamina, crassum, sursum curvatum: STIGMA capitatum.
PERICARPIUM: LEGUMEN reniforme, compressum, rugosum, nigrum, spiraliter cochleatum, subvillosum, fig. 1.
SEMEN unicum, ovatum, læve, flavescens, fig. 2.

ROOT biennial, tapering, furnished with few fibres, and penetrating deep into the earth.
STALKS procumbent, numerous, about a foot long, somewhat angular, slightly hairy, and branched.
LEAVES growing three together, inversely heart or egg-shaped, somewhat bluntly indented, terminated by a broad short point, soft, pubescent, particularly on the under side.
STIPULÆ two, ovato-lanceolate, acuminate, notched with little teeth.
SPICULÆ, first roundish, afterwards oval, the tips somewhat incurvated, and naked at bottom on one side.
CALYX a PERIANTHIUM of one leaf, somewhat hairy, having five teeth, which are unequal; the three lowermost longest; the two upper ones shorter, and remote from each other.
COROLLA yellow, small, longer than the Calyx: STANDARD turning back, with a slight notch, spreading below: WINGS and KEEL very small, and bending below.
STAMINA connected by the FILAMENTS: ANTHERÆ yellow.
PISTILLUM: GERMEN somewhat oval and flat: STYLE the length of the Stamina, thick, and bending upwards: STIGMA forming a little head.
SEED-VESSEL: a kidney-shaped LEGUMEN, flat, wrinkled, of a black colour, spirally twisted, and slightly villous, fig. 1.
SEED single, oval, smooth, and of a yellowish colour, fig. 2.

MANY of our *Trefoils* bear a considerable affinity to each other, and the present plant is often confounded with some of them: but similar as it may be in its leaves, its parts of fructification will always direct the student aright in his investigation of it; its seed-vessels in particular, being totally different from those of the *Trefoils. vid. fig. 1, 2.*
The leaves and stalks of this plant are frequently more hairy than those *Trefoils* for which it is liable to be mistaken, except the *subterraneum*, which is usually smaller; and in general the more barren the soil in which this plant grows, the more downy does it appear: by culture it grows much larger and becomes smoother.
Its flowers are smaller and more closely compacted than those of the *Trifolium agrarium* and *procumbens*, to both of which it bears a great similarity; nor are the spikes so exactly round as in those plants, but usually of an oval, or oblong shape, particularly when somewhat advanced; and when the seeds are ripe, the plant is distinguished at first sight, by its black seed-vessels.
The *Hop Medick* has of late years, been much cultivated in different parts of the kingdom; and in different counties, it has been distinguished by different names, as those of *Trefoil*, *Black Seed*, and *Non-such*.
As the name of *Trefoil* tends to confound this plant with the true *Trefoils*, or GENUS *Trifolium*, I have ventured to call it *Hop Medick*, there being already a plant called *Hop Trefoil*, viz. *Trifolium agrarium*, which though not at present in culture, may perhaps be introduced at some future period.
The *Hop Medick* is often sown by itself, and often with *Ray Grass*; and though it does not produce so large a crop as the *Broad-leaved Clover*, it is supposed to afford a sweeter one, and a food particularly adapted to Sheep.
Its natural situation is a dry one, and its soil sandy, hence we find it wild on dry banks and on hilly pastures, flowering in June and July. Its seed is ripe in August.



Sonchus oleraceus

SONCHUS OLERACEUS. COMMON SOWTHISTLE.

SONCHUS *Linnaei Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Recept. nudum. Cal. imbricatus ventricosus. Pappus pilosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

SONCHUS *oleraceus pedunculis tomentosis calycibus glabris. Linnaei Syst. Vegetab. p. 594. Flor. Suecic. p. 269. Sp. Plant. p. 1116.*

SONCHUS *foliis amplexicaulibus, dentatis, integris aut semipinnatis, calycibus lævibus. Haller. hist. p. 10. n. 21.*

HIERACIUM *oleraceum. Scopoli Fl. Carniol. p. 110.*

SONCHUS *lævis laciniatus latifolius. Baubin. Pin. 124.*

SONCHUS *lævis. Ger. emac. 292.*

SONCHUS *vulgaris. Parkinson. 805.*

Raii Syn. 162. Hudson. Fl. Angl. p. 294. ed. 2. p. 336.

Lightfoot Fl. Scot. p. 428.

RADIX annua, simplex, fibrosa, albida, lactescens.	ROOT annual, simple, fibrous, whitish, and milky.
CAULIS pedalis ad tripedalem, lævis, purpurascens, tener, fistulosus, ad basin teres superne subangulosus, ramosus.	STALK from one to three feet high, smooth, purplish, tender, hollow, at bottom round, towards the top somewhat angular, and branched.
FOLIA amplexicaulia, lævia, glauca, nervo medio purpurascens, inferiora pinnatifida, pinnarum paria duo aut tria, pinnis dentatis spinulo terminatis, lateralibus ovatis, terminali magno triangulari, superiora integra, ovato-acuta, basi lato.	LEAVES embracing the stalk, smooth, glaucous; the midrib purplish; the lower ones pinnatifid, consisting of two or three pair of pinnæ, which are indented, and each terminated by a little spine; the side ones oval, the end one large and triangular; the upper leaves entire, oval, pointed with a broad base.
PEDUNCULI tomentosi, per ætatem nudi.	FLOWER-STALKS downy, but becoming smooth by age.
CALYX communis ante florescentiam cylindraceus, et quasi truncatus, postea ventricoso-conicus, squamis plurimis, inæqualibus, lævibus, acuminatis, fig. 1, 2.	CALYX: the common Calyx before the flowering, cylindrical, and as it were cut off at top, afterwards bellying out, and forming a cone, covered with numerous smooth, unequal, pointed scales, fig. 1, 2.
COROLLA composita, imbricata, uniformis: FLOSCULIS monopetalis, ligulatis, quinquedentatis, fig. 3.	COROLLA compound, imbricated and uniform; the FLOSCULES monopetalous, the upper part flat, with five teeth, fig. 3.
STAMINA in cylindrum coælita: ANTHERÆ flavæ, apicibus nigricantibus.	STAMINA uniting into a cylinder: ANTHERÆ yellow, the tip blackish.
PISTILLUM: GERMEN subovatum: STYLUS filiformis, staminibus longior: STIGMATA duo, tenuia, patentia.	PISTILLUM: GERMEN nearly oval: STYLE filiform, longer than the Stamina: STIGMATA two, slender and spreading.
SEMEN oblongum, compressum, fulcatum, scabriusculum: PAPPUS sessilis, simplex, tenuissimus, fig. 4, 5.	SEED oblong, flattened, grooved, roughish: Down sessile, simple, very fine, fig. 4, 5.
RECEPTACULUM nudum, punctis prominulis scabrum, lucidum, fig. 6.	RECEPTACLE naked, rough with little prominent points, and shining, fig. 6.

THE *Sowthistle* is subject to many varieties, some of which have differed so much from the common appearance of this plant, as to have occasioned them to be considered as distinct species. Thus HALLER makes the *Sonchus asper*, or *prickly Sowthistle*, a distinct species: and the old Botanists formed several other species of it from different circumstances; as size, breadth, divisions of its leaves, &c. But the generality of Botanists seem now disposed to consider them all as the same, varying from soil, situation, &c. The prickly variety seems to be the only one that has any pretensions to be considered as distinct: but if any person will be at the pains to examine a garden overrun with these plants, he will readily trace it into the smooth.

This plant appears to have been little regarded as a medicine; but as a favourite food of Hares and Rabbits, it is collected with great avidity.

It abounds most in gardens and cultivated ground; yet is sometimes met with on walls.

Being a large plant, and of quick growth, it is one of those which usually appear in neglected gardens, overrunning most others, and proving more injurious to the slovenly gardener than the farmer.

It flowers chiefly in July, August, and September.

According to the experiments made by some of LINNÆUS's pupils, and published originally in the *Amœnitates Academicæ*, it appears that it is eaten by Goats, Sheep, and Swine, but not relished by Horses.

The young tender leaves are in some countries, boiled and eaten as greens; *Lightfoot Fl. Scot.*

*In the 2d. vol. of Essays relating to Agriculture and rural affairs, by Mr. ANDERSON, there is a translation of these experiments.

53



Pulsatilla Petasitis

Sonson. Sculp.

TUSSILAGO PETASITES. BUTTERBUR.

TUSSILAGO Lin. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus simplex. Cal. squamæ æquales, discum æquantes, submembranaceæ.

Raii Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES FLORE DISCOIDE.

TUSSILAGO Petasites Thyrso ovato, flosculis omnibus hermaphroditis. Lin. Sp. Pl. p. 1215. Fl. Suecic. n. 746.

PETASITES floribus dense spicatis, flosculis androgynis. Haller hist. n. 143.

TUSSILAGO Petasites. Scopoli Fl. Carn. n. 1058.

PETASITES major et vulgaris. Baub. p. 197.

PETASITES Gerard emac. 814.

PETASITES vulgaris. Parkinson. 419. Raii Syn. p. 179, Butterbur, Pestilent-wort.

Hudson. Fl. Angl. 351. ed. 2. 364.

Lightfoot. Fl. Scot. 477.

RADIX perennis, repens, albida, crassitie digiti, multo etiam major in adultis plantis, horizontalis, fibras plurimas prælongas dimittens, versus apicem sensim incrassatas.

PETIOLI radicales, teretiusculi, striati, villosi, canaliculati, basi vaginati, purpurascens.

FOLIA cordata, rotundata, margine inæqualiter dentata, denticulis rufis, inferne subtomentosa, defloratâ plantâ incrementa, tandem amplissima.

SCAPUS radicalis, spithameus, teres, fistulosus, albidus, tomentosus, adpersus squamis lanceolatis, purpurascens, nervosis, inferioribus foliolo crenulato terminatis.

THYRSUS primum ovatus, dein oblongus, demum subconicus, pedunculis unifloris, bractæatis.

BRACTEÆ ad basin pedunculorum lanceolatae, apice purpurascens, deliculae, longitudine pedunculi, fig. 1.

CALYX communis, turbinatus, laevis, squamis subæqualibus, lanceolatis, apice subincurvatis, fig. 2.

COROLLA composita; corollulae omnes hermaphrodite, tubulosae, propria pallide purpurea, infundibuliformis, tubo filiformi, elongato, limbo campanulato, quinquefido, laciniis reflexis, fig. 3.

ANTHERÆ purpureae, in tubum coalitae, fig. 4.

PISTILLUM: GERMEN teres, nudum: STYLUS albidus, antheris longior: STIGMA crassum, album, bifidum, fig. 5.

SEMINA oblonga, marcidia, nigricantia, sterilia, pappo simplici coronata, fig. 6.

RECEPTACULUM nudum.

ROOT perennial, creeping, whitish, the thickness of ones finger, or much larger in full grown plants, running horizontally, and sending down numerous long fibres, which grow thicker towards the extremity.

LEAF-STALKS proceeding from the root, roundish, striated, villous, hollow on the inside, forming a sheath at bottom, and purplish.

LEAVES heart-shaped, rounded, the edge unequally indented, the teeth reddish, underneath somewhat woolly, growing very large after the plant has flowered.

SCAPUS proceeding from the root, about seven inches high, round, hollow, whitish, woolly, covered with lanceolate scales or leaves of a purplish colour, ribbed, the lower ones often terminating in a small notched leaf.

THYRSUS first oval, then oblong, lastly nearly conical: the flower-stalks supporting one flower each, and furnished with floral-leaves.

FLORAL-LEAVES at the base of the flower-stalks lanceolate, purplish at top, delicate, and the length of the flower-stalk, fig. 1.

CALYX common to many florets, broad at top, and small at bottom, smooth, the scales or leaves nearly equal, lanceolate, and bending in somewhat at top, fig. 2.

COROLLA composed of many florets, all of which are hermaphrodite and tubular, of a pale purple colour, and funnel-shaped; the tube long and slender; the brim bell-shaped, divided into five segments, which are turned back, fig. 3.

ANTHERÆ purple, united into a tube, fig. 4.

PISTILLUM: GERMEN round and naked: STYLE whitish, longer than the Stamina: STIGMA thick, white, and bifid, fig. 5.

SEEDS oblong, withered, blackish, sterile, crowned with simple down, fig. 6.

RECEPTACLE naked.

THE Butterbur though differing widely from the Coltsfoot in the appearance of its bloom, yet agrees with it in many particulars; the root especially, possesses the same power of increasing the plant, by creeping under the earth to a very great distance; hence when once introduced into a garden, it is scarce to be rooted out, especially if the soil be a moist one. Was it not for this pernicious effect, the beautiful mode of its flowering, joined to its early appearance, would entitle it to a place in the gardens of the curious.

The blossoms, like those of the Coltsfoot, make their appearance before the leaves. If the spring be mild, the spike will be formed by the middle of March; but April is the month in which it oftener blows.

It does not, like the Coltsfoot, expand its pappus or down, but the flowers change to a dirty brown colour; and the seeds on examination, appear altogether barren. It appears difficult to account for the cause of this sterility, as the parts of the fructification seem evidently perfect.

This loss is however amply supplied in another way, as will be evident from the following experiment.

April the 1st. 1778, I planted in my garden a piece of the Butterbur root, two inches long, the thickness of the little finger, with a tuft of leaves to it. November the 3d. 1779, this root with its increase, was dug up, many of the shoots had extended themselves to the distance of six feet, and penetrated two feet in depth; the whole washed from the surrounding dirt, weighed eight pounds.

A very ingenious Swedish botanist informed me, that the early appearance of this plant, induced the rural oeconomist in Sweden, to plant it near their bees, who resort much to its blossoms. The above experiment shews that this custom should be adopted with caution, since where this plant abounds, the ground is so shaded with its ample leaves, as to produce few others.

The soil in which it flourishes most is a moist one, hence it is most commonly found on the banks of rivers and streams. Near London it grows on the north side of the River Thames, betwixt Westminster Bridge and Chelsea.

Formerly it was a medicine of great repute in pestilential and other fevers; but in the modern practice it is but little regarded.



Tussilago Farfara.

TUSSILAGO FARFARA. COLTSFOOT.

TUSSILAGO *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus simplex. Cal. squamæ æquales, discum æquantes, submembranaceæ.

Raii Syn. Gen. 17. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.

TUSSILAGO *Farfara* scapo unifloro imbricato, foliis subcordatis angulatis denticulatis. *Linnaei Syst. Vegetab. p. 629. Spec. Plant. p. 1214. Fl. Succic. n. 743.*

PETASITES scapo unifloro; flosculis in ambitu lingulatis. *Haller hist. n. 143.*

TUSSILAGO *Farfara. Scopoli Fl. Carniol. n. 1059.*

TUSSILAGO vulgaris *Baubin pin. 197.*

TUSSILAGO *Gerard emac. 811.*

TUSSILAGO *Parkinson 1220. Raii Syn. p. 173, Common Coltsfoot. Hudson Fl. Angl. p. 315. Oeder Fl. Dan. icon. 595.*

RADIX prælonga, crassitie minimi digiti, albida, sub terra reptans et late se propagans, ex una parte folia ex altera flores emittens.

FOLIA subrotundo-cordata, anguloso-dentata, inferne tomentosa, albida, superne viridia sæpe cum tantillo tomenti.

SCAPI uniflori, striati, tomentosi, foliosi, foliolis lanceolatis, adpressis, rubicundis, peractâ florecentiâ nutantes, demum erecti.

CALYX (communis) cylindraceus; squamis oblongis, acutis, alternis angustioribus, fig. 1, 2.

COROLLA composita, COROLLULÆ in disco hermaphroditæ, tubulosæ, flavæ; limbo quinquefidus, acuto, reflexo, fig. 4; ANTHERÆ in tubum coalitæ, apicibus acutis, fig. 5; GERMEN breve, fig. 8; STYLUS filiformis, Antheris longior, fig. 9; STIGMA capitatum, fig. 10.

COROLLULÆ in radio femineæ, flavæ, basi tubulosæ, limbus linearis, fig. 3; GERMEN oblongum, fig. 6; STIGMA bifidum, tenue, fig. 7.

SEMEN oblongum, pallide fuscum; PAPPUS sessilis, simplex, fig. 11.

ROOT very long, the thickness of ones little finger, whitish, creeping under the ground, and propagating itself far and wide; from one part of it sending forth leaves, from another part flowers.

LEAVES of a roundish heart-shaped figure, angular and indented, underneath downy and whitish; above green, oftentimes covered with a little down.

STALKS supporting one flower, channeled, downy, covered with leaves, which are lanceolate, pressed to the stalk and reddish, upright, when the blossoms are over hanging down, finally becoming upright.

CALYX (common to all the florets) cylindrical; the squamæ or little leaves oblong, pointed; the alternate ones narrowest.

COROLLA compound: the FLORETS in the center hermaphrodite, tubular, yellow; the limb divided into five segments, which are pointed and turn back, fig. 4: ANTHERÆ uniting into a tube, the tips pointed, fig. 5: the GERMEN short, fig. 8: the STYLE filiform, longer than the Antheræ, fig. 9: the STIGMA forming a little head, fig. 10.

FLORETS in the circumference yellow, at bottom tubular, the limb very narrow, fig. 3: GERMEN oblong, fig. 6: STIGMA bifid, slender, fig. 7.

SEED oblong, of a pale brown colour; DOWN standing on the seed, not feathered, fig. 11.

NEXT to the *Hazel*, the *Coltsfoot* is the first flower which appears with us in the Spring; and there is this remarkable circumstance attending it, that its blossoms come up generally at some distance from, and before its leaves: these are gathered by many persons who make a Syrup or Tea of them when dried, which is generally considered as a Pectoral, or useful in disorders of the Lungs. The leaves make a principal ingredient in the British Herb Tobacco.

As soon as the flowers are out of bloom, and the seeds with their Pappus or Down, as yet moist, are inclosed within the Calyx, the heads hang down as represented in the figure: as the moisture of the seeds and pappus evaporates, in ripening, they become lighter, and are again erected; and now the Pappus fully expands, and puts on somewhat the appearance of the Dandelion puff. I have noticed this peculiarity, as the like does not take place in the generality of compound flowers.

In *Charlton sand pits*, and many other places about Town, the *Coltsfoot* is plentiful enough; flowering in February and March.

Farmers are displeased with the appearance of this plant on their ground, as it not only indicates a poor, cold, and impoverished soil; but is with much difficulty, from the length of its creeping roots, effectually destroyed.

The

The custom of smoaking this plant, which still prevails, is of antient date: PLINY directs the dried leaves and root of *Coltsfoot* to be burned, and the smoak drawn into the mouth through a reed and swallowed, as a remedy for an obstinate cough; the patient sipping some raisin wine with each draught of the smoak: "*Hujus aridæ cum radice fumus, per Arundinem haustus et devoratus, veterem sanare dicitur tussim; sed in singulos haustus passum gustandum est.*" This is the only account amongst the antients, that we have hitherto been able to discover, which tends towards the practice of smoaking: but we cannot acquiesce in the common opinion, that smoaking of Tobacco, or at least some kind of plant, was unknown in the old world 'till SIR WALTER RALEIGH brought it from *America*. Is it probable that the inhabitants of *Africa* should so soon have universally adopted a custom from *Europe* that was unknown two centuries ago? Or that the *Asiatics*, so tenacious of their own manners, customs and habits, should in so small a time, have agreed to extend this uncouth kind of luxury over a vast continent, from the confines of *Constantinople* to the extremities of *China*?

Countries thinly inhabited are much molested with Gnats. Travellers tell us, that the *Northern Asiatic Tartars* constantly carry on their arms, during the Summer, a pot of burning Touchwood, sometimes prepared from the root of this plant, to defend themselves by the smoak, from the annoyance of these insects. It is probable one more ingenious than the rest contrived to keep this fire alive, by a communication with his breath; and this expedient by degrees produced a Tobacco-pipe. A propensity to intoxication, so natural to mankind, would give a preference to Tobacco before most other vegetable substances; and thus a custom that in the beginning was taken up for self-defence, at last might become a luxury.

The first discoverers of *America* probably found the natives smoaking Tobacco: but might they not bring this practice with them from the northern parts of *Europe* or *Asia*, which were never penetrated by the Roman arms; from whence it appears probable that *America* was peopled?

A room or bed-chamber may at any time be cleared from Gnats, by setting the windows open, and smoaking or burning some Tobacco, from which the insects are obliged immediately to escape. Those that are offended by its smell, may substitute this plant in its stead. But cultivated and inhabited countries are in a great measure defended from insupportable swarms of Gnats by a provision of nature little attended to. Of the four kinds of Swallows which frequent this island, whose food consists intirely of flying insects, three of them are domestic, and could with difficulty find suitable conveniencies for building their nests, without attaching themselves to the habitations of men, around which they are perpetually hawking for their prey: hence it is apparent why deserts particularly abound with Gnats.

The Poet observes that the Martin or Martlet, one species of swallow, chooses a delicate air for its residence. Who then can suffer its nest to be disturbed after reading the following lines? especially since this bird pays such a compliment to the sweetness of the situation?

—————"This guest of summer,
 "The temple-haunting Martlet, does approve,
 "By his lov'd mansionry, that heavens breath
 "Smells wooingly here: no jutting frieze,
 "Buttress, nor coigne of vantage, but this bird
 "Hath made his pendent bed and procreant cradle.
 "Where they most breed and haunt, I have observ'd
 "The air is delicate."

Although we have wandered from our subject, the candid and humane will forgive our interceding for a visitor, who claiming the rites of hospitality, places unreserved confidence in us, and seems directed by providence to attend on mankind for purposes the most friendly and beneficial.



Viola canina

VIOLA CANINA. DOGS VIOLET.

VIOLA *Linnaei* Gen. Pl. SYNGENESIA MONOGAMIA.

Calyx pentaphyllus. *Corolla* pentapetala, irregularis, postice cornuta. *Capsula* supera, trivalvis, unilocularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA *canina*, caule adultiore adscendente, foliis oblongo-cordatis. *Linnaei* Syst. Vegetab. p. 668.

VIOLA caule procumbente, ramofo, foliis petiolatis cordatis. *Haller* hist. helv. n. 563.

VIOLA *canina*. *Scopoli* Fl. Carniol. n. 1098.

VIOLA *martia* inodora fylvestris. *Baubin*. pin. p. 364.

VIOLA *canina* fylvestris. *Ger. emac.* 851.

VIOLA fylvestris. *Parkinson* 755. *Raii* Syn. p. 364, Wild or Dogs Violet. Viola *canina* minor,

Raii Syn. 364. t. 24. fig. 1. *Hudson* Fl. Angl. p. 331.

RADIX perennis, crassitie pennæ coracis, obliqua, fibras longiusculas, tenaces dimittens, superne subdentatus ex reliquiis petiolorum.

CAULIS suberectus, triuncialis, subangulosus, lævis, folia floresque ferens.

FOLIA cordata, lævia, crenata, subtus sæpe purpurascencia, superiora oblongo-cordata.

STIPULÆ caulinae lanceolatae, pilis rigidiusculis ciliatae.

PEDUNCULUS tetragonus, bractæis duabus setaceis instructus.

FLOS purpureus, inodorus, majusculus.

CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, acuminatis, nervosis, basi dentatis; tribus superioribus superne tuberculosis, apicibus recurvatis, duobus inferioribus longioribus, fig. 1.

COROLLA, ut ut Stamina cum Pistillo, a duabus speciebus jam descriptis (vid. odorata et hirta) vix discrepant, petala lateralia basi barbata sunt, fig. 2, petalumque inferius ad basin lineis saturate purpureis pingitur.

CAPSULA oblonga, trigona, trivalvis, valvulis cymbiformibus, fig. 3.

SEMINA plurima, glabra, pallida, flavescencia, in singulâ valvulâ, 7, 9, fig. 4.

ROOT perennial, about the thickness of a crow quill, oblique, sending down some longish fibres of a toughish substance, on the upper part somewhat toothed or knobbed, from the remains of the leaf stalks.

STALK nearly upright, about three inches high, somewhat angular, smooth, bearing both leaves and flowers.

LEAVES heart-shaped, smooth, crenated, and oftentimes purplish underneath; the upper leaves of a longer shape.

STIPULÆ of the stalk lanceolate, and edged with stiffish hairs.

FLOWER-STALK square, furnished with two narrow pointed floral-leaves.

FLOWERS purple, scentless, and rather large.

CALYX: a PERIANTHIUM of five leaves, which are lanceolate, pointed, rib'd, and indented at the base; the three uppermost a little uneven on their upper surface, the points bending upward; the two lowermost longer, fig. 1.

COROLLA, as well as the Stamina and Pistillum, differ very little from the two species already described, (viz. the sweet-scented and hairy) having the lateral petals, bearded at the base, fig. 2; and the base of the lowermost petal, painted with deep purple lines.

CAPSULE oblong, three cornered, having three valves, which are boat-shaped, fig. 3.

SEEDS numerous, smooth, of a pale yellowish colour, in each valve 7 or 9, fig. 4.

THE *Dog Violet* differs from the *Sweet Violet* in many particulars; the chief of which are,

First, The flowers have no smell.

Second, The flowers grow on foot-stalks which spring from the stalk, and not the root, and are in general of a larger size.

Third, The stipulæ, next the root and on the stalk, are very strongly edged with stiff hairs.

Fourth, The segments, or leaves of the calyx, are pointed.

Fifth, The seed-vessel is oblong and three corner'd.

It differs from the *hairy Violet* also, in all these respects except the first.

The same peculiar circumstance of producing seed during the summer months, without any expanded corolla, takes place also in this species.

It grows with us in greater abundance than either the *Viola odorata* or *hirta*, in our woods, and under hedges; and begins to flower in April, when both the others are going out of bloom.

It varies in colour, being sometimes found with white blossoms; in size also, according to the exposed or sheltered situation in which it grows, it differs very much: and there is little doubt, but the *Violet* represented in *RAY's Synopsis*, pl. 24, fig. 1, is the *Viola Canina* in its small state, though the figure be imperfect as to its characters.

HALLER observes, that those who collect Violet blossoms for making the syrup, are apt to substitute this species: but this cannot often happen: should these flowers alone be exposed for sale, they may be detected by their want of smell; should they be mixed with a few of the sweet ones, they may be discovered by the pointed shape of the leaves of the calyx.



Orchis mascula

ORCHIS MASCULA. EARLY SPOTTED ORCHIS.

ORCHIS *Linnei Gen. Pl.* GYNANDRIA DIANDRIA.

Nectarium corniforme pone florem.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITE.

ORCHIS *mascula* bulbis indivisis, nectarii labio quadrilobo crenulato: cornu obtuso petalis dorsalibus reflexis. *Lin. Syst. Vegetab. p.* 674. *Fl. Suecic. p.* 319. *n.* 795.

ORCHIS radicibus subrotundis; petalis lateralibus reflexis; labello trifido; segmento medio longiori, bifido. *Haller hist. n.* 1283. *tab.* 33.

ORCHIS *mascula.* *Scopoli Fl. Carniol. n.* 1111.

ORCHIS morio mas foliis maculatis. *Baubin. pin.* 81. *Parkinson.* 1346.

CYNOSORCHIS morio mas. *Gerard. emac.* 208. *Raii Syn. p.* 376. *n.* 3, The Male Fool-stones. *Hudson. Fl. Angl. p.* 333. *Oeder. Fl. Dan. t.* 457. *Lightfoot. Fl. Scot. p.* 515.

RADIX Bulbi duo subrotundi, majusculi.

CAULIS pedalis, erectus, teres, solidus, superne purpureascens, nudus, inferne foliis vaginantibus vestitus.

FOLIA latiuscula, maculis atropurpureis plerumque insignita, inferne carinata.

SPICA longa, speciosa, laxa.

BRACTEÆ purpureæ, lanceolatae, submembranaceæ, germine paulo breviores, apicibus paululum contortis.

COROLLA: PETALA quinque purpurea; duo ovato-acuta, erecta, carinata, apicibus incurvatis, tria conniventia in galeam: LABELLUM amplum, trilobum, medio productiore, omnibus acute crenulatis, et basi maculatis: FAUX alba.

EXPLIC. FIG.

- Fig. — 1, Bractæa.
2, 3, Petala.
4, Labellum.
5, Nectarium, nat. magnit.
6, Glandula ad basin Filamenti.
7, Filamentum.
8, Anthera.
9, Receptaculum glandularum Filamentorum.
10, Theca Antherarum clausa.
11, Eadem aperta.
12, Anthera extensa.
13, Stigma.
14, Germen, auct.

ROOT: two Bulbs of a roundish form, and somewhat large.

STALK a foot high, upright, round, solid, above naked and purplish, below clothed with surrounding leaves.

LEAVES broadish, most commonly marked with dark purple spots, the midrib projecting sharply on the under side.

SPIKE long, showy, loose.

FLORAR-LEAVES purple, lanceolate, somewhat membranous, a little shorter than the Germen, the tips a little twisted.

COROLLA: five purple PETALS, two of which are of an oval pointed shape, upright, with a projecting rib, the tips bending inward; the remaining three form the galea or helmet: the Lip large, with three lobes, of which the middle one is the longest, all of them sharply notched, and spotted at the base: MOUTH white.

EXPLANATION of the FIGURES.

- Fig. — 1, The Floral-leaf.
2, 3, The Petals.
4, The Lip.
5, The Nectary of their natural size.
6, The Gland at the base of the Filament.
7, The Filament.
8, The Anthera.
9, The Cavity containing the Glands of the Filaments.
10, The case containing the Antheræ closed.
11, The same opened.
12, The Anthera stretched out.
13, The Stigma.
14, The Germen, magnified.

STUDENTS in general, find a difficulty in obtaining a clear idea of the parts of fructification in the *Orchis* tribe. There is a peculiarity of structure runs through the whole of them, very different from what we meet with in plants in general.

The greater part of this genus have bulbous roots, which are yearly renewed; some have fibrous roots, which also partake of the same nature. As a proof of their being yearly renewed, we always find, when there are two bulbs, that one of them is in a more withered state than the other; and if we take the roots up in Autumn, we find one bulb only.

These plants multiply themselves very little. The small increase they make, appears to be from off-sets. Hitherto we have no satisfactory proof of their being propagated from seed; yet the seed-vessels in many of them, are large, well formed, and filled with seeds; which though extremely minute, appear perfect.

The smallness of the seed is, however, no argument against its vegetating: some of the *Ferns*, whose seeds are much smaller, are well known to some ingenious nurserymen near London, to be propagated from seed, and to come up spontaneously in their hot-houses, where the original plant has scattered its seed: and it is most probably owing to a want of minute attention, that the progress of the *Orchis* seedlings has not yet been observed.

Were we however disposed to doubt the vegetative power of these seeds, we might urge, that their barrenness was owing to their not being properly impregnated; the Antheræ in the *Orchis* tribe, appearing to be totally different in their structure, from those of plants in general; and not containing, so far at least, as I have yet been able to discover, any similar pollen, or impregnating dust.

Each flower has two stamina, whose structure is well deserving the attention of the curious: each of these stamina is contained within a bag or case, the edges of which fold over each other, and open anteriorly, as the plant advances toward maturity, *fig.* 10, 11. At this period, in many of the *Orchis* tribe, they hang down out of their cases towards the stigma, and are particularly visible in the *Bee Orchis*, and some others: on the slightest pull they are drawn out, and then at the base of each filament, we discover a small transparent globule, *fig.* 6; and at the top a club-shaped substance, most commonly of a yellow colour, and granulated surface, which must be considered as the *Anthera*, *fig.* 8. On stretching this substance before the view of a microscope, it appears to be composed of a number of cubic or irregularly square corpuscles, united together by fine elastic threads, *fig.* 12: that these corpuscles produce the effect of *Pollen* seems highly probable, though in a manner, at present unknown to us.

There is no difficulty in distinguishing this species from all our other *Orchis*'s: its spotted leaves and early bloom, will in general be sufficient.

The beauty of its leaves and flowers, justly intitle it to a place in the gardens of the curious; and in which, if planted in a shady situation, it will readily grow.

It flowers in April and May.

About London it is become somewhat scarce; but in the woods and meadows in most parts of England, no plant more abounds.

Should it ever be found practicable, as well as profitable, to cultivate this genus of plants, for the purpose of making *Salap*, this species appears as likely to answer as any of them.

The extraordinary invigorating powers of the roots of these plants, have been handed down to us with ceremony, by many great names amongst antiquity: but we readily subscribe to the opinion of Monsieur GARIDEL, who in speaking of the *Orchis*, says that great names have introduced many absurd medicines.

ARUM MACULATUM. CUCKOW-PINT.

ARUM *Linnaei Gen. Pl.* GYNANDRIA POLYANDRIA.

Spatha monophylla, cucullata, *Spadix* supra nudus, inferne femineus, medio stamineus.

Raii Syn. Ger. 16. HERBÆ BACCIFERÆ.

ARUM *maculatum* acaule, foliis hastatis integerrimis, spadice clavato. *Lin. Syst. Vegetab.* p. 690.

ARUM foliis sagittatis; spatha recta: clava cylindrica. *Haller. hist. helv. n.* 1302.

ARUM *maculatum.* *Scopoli Fl. Carniol. n.* 1138.

ARUM vulgare maculatum. *Baubin pin.* 195.

ARUM vulgare. *Gerard. emac.* 834.

ARUM maculatum et non maculatum. *Park. 373. Raii Syn. p.* 266, Wake-Robin, Cuckow-pint.

Hudson. Fl. Angl. p. 342.

Lightfoot Fl. Scot. p. 528.

RADIX perennis, tuberosa, albida, magnitudine nucis myristicæ majoris, transversa, fibras plurimas, simplices undique in terram demittente, sapore acerrimo, tuberculis e lateribus egerminantibus se propagante.

FOLIA: ex una radice duo tria vel quatuor, rarius plura exeunt, sagittata, petiolata, nitida, venosa, venis intra marginem terminatis, maculis purpureis sæpe notata.

PETIOLI basi vaginantes, subtriquetri, externe convexi, interne canaliculati.

FRUCTIFICATIO spathâ inclusa.

CALYX: Spatha monophylla, maxima, oblonga, basi convoluta, apice connivens, ventre compressa; *Spadix* clavatus, simplicissimus, spathâ paulo brevior, purpureus aut albidus, inferne germinibus obvallatus, marcescens supra germina, *fig. 4.*

COROLLA nulla.

STAMINA: FILAMENTA nulla: ANTHERÆ plurimæ, sessiles, tetragonæ, purpureæ, spadici adnatæ, *fig. 1.*

NECTARIA corpuscula plurima, basi crassa, desinentia in cirrhos filiformes supra et infra stamina, *fig. 3.*

PISTILLUM: GERMINA plurima, basin spadicis vestientia, infra stamina collocata, obovata: STYLI nulli: STIGMATA villis barbata, *fig. 2.*

PERICARPIUM: BACCÆ totidem, coccineæ, globosæ, uniloculares, *fig. 5.*

SEMINA plurima, subrotunda.

ROOT perennial, tuberous, whitish, about the size of a large nutmeg, growing transversely, sending forth on every side a great number of single fibres, of a most biting taste, propagating itself by little tubercles, springing from its side.

LEAVES: from one root two three or four, seldom more proceed, arrow-shaped, standing on foot-stalks, shining, veiny, the veins terminating within the margin, often marked with purple spots.

LEAF-STALKS at bottom forming a sheath, three-cornered, externally convex, internally channelled.

FRUCTIFICATION inclosed in a sheath.

CALYX: a sheath of one leaf, very large, oblong, the edges wrapping over each other at bottom, at top closing, the middle part compressed, the tongue club-shaped, single, shorter than the sheath, purple or of a whitish colour, below surrounded by the germina, and withering above them.

COROLLA wanting.

STAMINA: FILAMENTS wanting: ANTHERÆ numerous, sessile, four cornered, purple, grow to the tongue, *fig. 1.*

NECTARIES several roundish bodies, terminated by a tapering thread, placed above and beneath the stamina, *fig. 3.*

PISTILLUM: GERMINA numerous, surrounding the base of the spadix or tongue, of an oval shape, placed beneath the stamina: STYLES wanting: STIGMATA bearded with little hairs, *fig. 2.*

BERRIES corresponding in number with the germina, scarlet, round, of one cavity, *fig. 5.*

SEED numerous and roundish.

BOTANISTS who have noticed the history of this plant, well know that it appears under two very different forms in the spring and autumn: but the generality of people are not aware, that the naked cluster of scarlet berries, so conspicuous in the hedges at the close of the summer, is the produce of what are usually called *Lords and Ladies*, which attract the notice of children in the spring, and which are observable under most shady hedges.

The leaves of the *Cuckow-pint* are subject to vary very much in their shape, and often appear spotted with purple, as sometimes does the sheath: the tongue within the sheath varies also much in its colour, from a yellowish green to a fine purple.

All authors agree, that the root of the *Arum*, in its recent state, is extremely acrimonious; but they in general agree, that it loses its biting quality when dried, and with it its medicinal powers.

MILLER observes, that these roots are generally gathered in the spring, when the leaves are in full vigour, so that the roots shrink, and soon lose their pungent quality; but those which are taken up when the leaves decay, will continue good a whole year, and retain their pungency the same as when first taken up; *Gard. Dict. 4to. ed. 5.* The same mode is recommended by **BERGIUS**, in his *Mat. Medic.*

When dried and powdered, they become eatable, and afford nourishment somewhat similar to fago or salep.

The distilled water of the root, as also a powder prepared by drying its juice, have been in use as cosmetics. The root also, like that of the *Sopewort*, has been occasionally substituted for sope; *Ray, Ratty.*

Many of the *Arums* have mild roots, which are eaten by the inhabitants of all the hot countries, where they grow naturally: and some of the sorts are cultivated by the inhabitants of the sugar colonies as esculent plants; the leaves of one of the species of them, called *Indian Kale*, are boiled, and supply the want of other greens; *Miller's Gard. Dict.*

The berries are equally acrimonious with the roots; *Scopoli.*

When stimulating medicines are proper, which at the same time increase the secretions, as in some species of asthma and dropsy, the *Arum* may probably be found serviceable: at present however it is not much in use.

If my memory does not deceive me, the roots in the woods are eaten by divers Birds, notwithstanding their pungency, particularly the Pheasant.



Arum maculatum

Sanson Sculp





POTERIUM SANGUISORBA. BURNET.

POTERIUM *Linnaei* Gen. Pl. MONOECIA POLYANDRIA.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS

SEU AD SINGULOS FLORES SINGULIS.

POTERIUM *Sanguisorba* inerme caulibus subangulosis. *Lin. Sp. Pl.* 1411.

PIMPINELLA polystemon. *Haller hist. n.* 706.

SANGUISORBA minor. *J. Baubin III. 2.* 113.

PIMPINELLA *Sanguisorba* minor hirsuta. *Baubin pin.* 160.

PIMPINELLA vulgaris minor. *Parkinson* 582.

PIMPINELLA sylvestris. *Gerard emac.* 1045. *Raii Syn. p.* 203, Burnet. *Hudson. Fl. Angl. p.* 358.

RADIX perennis, simplex, albida, in terram alte descendens.

CAULES plures, suberecti, dodrantes aut pedales, ramosi, striati, subangulosi, rubicundi, laeves, ad basin hirsutuli.

FOLIA alterna, pinnata, pinnis inferioribus subrotundis, plerumque oppositis, ferratis, laevibus, subtus cœrulescentibus, nervo medio hirsutulo, caulinis ovatis et ovato-acutis.

STIPULÆ dentatæ.

FLORES in capitulis subrotundis congesti, superiores feminei, inferiores masculi, sæpe etiam hermaphroditi.

CALYX: PERIANTHIUM triphyllum, inferum, foliolis membranaceis, marcescentibus, fig. 1.

COROLLA quadripartita, laciniis ovatis, sæpe coloratis, concavis, patentibus, basi coalitis, fig. 2: in flore masculo seu hermaphrodito et calyx et corolla majores sunt.

STAMINA: FILAMENTA circiter triginta, longa, pendula, rubra: ANTHERÆ flavæ, biloculares, loculis femilunatis, fig. 3, 4, 5.

PISTILLUM in flore femineo: GERMEN quadrangulum: STYLUS capillaris: STIGMA ruberrimum, penicilliforme, fig. 7, 8, 9, auct. Styli et Stigmata duo sæpe occurrunt: in flore hermaphrodito Styli duo breviores, Stigmatibus minus expansis, fig. 10.

PERICARPIUM BACCA exfucca, tetragona, lateribus rugosis, continens Semina duo, pallide fusca, fig. 11, 12.

ROOT perennial, simple, whitish, penetrating deep into the earth.

STALKS several, nearly upright, from nine inches to a foot in height, branched, striated, somewhat angular, of a reddish colour, smooth, but slightly hairy at bottom.

LEAVES alternate and pinnated; the lowermost pinnæ, or small leaves, roundish, generally opposite, ferrated, smooth, underneath blueish; the midrib slightly hairy; the leaves of the stalk oval and pointed oval.

STIPULÆ indented.

FLOWERS growing in little round heads, the uppermost female, the lowermost male, and oftentimes hermaphrodite.

CALYX: a PERIANTHIUM of three leaves, placed below the Germen; the leaves membranous and withering, fig. 1.

COROLLA divided into four segments, which are oval, often coloured, concave, spreading, and uniting at bottom, fig. 2: in the male or hermaphrodite flower both the Calyx and Corolla are larger.

STAMINA: FILAMENTS about thirty, long, pendulous, and of a red colour: ANTHERÆ yellow, bilocular, the cavities femilunar, fig. 3, 4, 5.

PISTILLUM in the female flower: GERMEN quadrangular: STYLE capillary: STIGMA very red, and pencil-shaped, fig. 7, 8, 9, magnified. Two Styles and Stigmata often occur: in the hermaphrodite flower the Styles are shorter, and the Stigmata less expanded, fig. 10.

SEED-VESSEL a juiceless BERRY, having four wrinkled sides, and containing two pale brown SEEDS, fig. 11, 12.

BURNET is one of those plants which has for some years past been attempted to be introduced into agriculture, but not answering the farmers expectations, is now in a great degree laid aside. Cattle are said not to be fond of it; nor is its produce sufficient to answer the expence attending its culture. It is to be lamented that persons do not pay a little more attention to the nature of plants before they so warmly recommend them. It should seem very unlikely *a priori*, that a small plant, scarce ever met with but on hilly and chalky ground, and to which cattle in such situations do not shew any particular attachment, should afford better, or more copious nourishment, than the *Clovers* and other plants already in use. It is not meant by this, however, to discourage that laudable spirit of improvement which so happily prevails at present; but to caution such as introduce any new plant, to make themselves thoroughly acquainted with its natural history.

The leaves of this plant, when bruised, smell somewhat like Cucumber; and are used by some as a salad; and by others added to cool tankard to give it an agreeable flavour.

LINNÆUS places it among his Monoicous plants, the flowers on the top of the heads being female, and those at the bottom male, contrary to what occurs in most plants of that Class: but it happens very frequently, that the bottom flowers have likewise in them two Pistils, although not so conspicuous as in the female flowers, the Stigmata being not so much branched; hence there being female and hermaphrodite flowers on the same plant, it would perhaps with more propriety be placed in the Class *Polygamia*. Do not these obscure hermaphrodite flowers contribute to the fertility of the plant?



Mercurialis perennis

MERCURIALIS PERENNIS. DOGS MERCURY.

MERCURIALIS *Linnaei Gen. Pl. Dioecia ENNEANDRIA.*

MASC. Cal. 3-partitus. Cor. o. Stam. 9-s. 12. Antheræ globosæ, didymæ.

FEM. Cal. 3-partitus. Cor. o. Styli 2. Caps dicocca, 2-locularis. 1-sperma.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALA POTIUS.

MERCURIALIS *perennis* caule simplicissimo foliis scabris. *Linnaei Syst. Vegetab. Sp. Pl. 1465.*

MERCURIALIS caule perenni simplici, foliis ovato-lanceolatis hirsutis. *Haller hist. helv. n. 1601.*

MERCURIALIS *Cynocrambe. Scopoli Fl. Carniol. p. 266. n. 1225.*

MERCURIALIS *perennis* repens *Cynocrambe dicta, Raii Syn. p. 139. Hudson Fl. Angl. p. 371.*

MERCURIALIS montana testiculata et *Mercurialis montana spicata. Baubin. pin. 123.*

MERCURIALIS sylvestris *Cynocrambe dicta vulgaris mas et femina. Parkinson 295.*

CYNOCRAMBE mas et femina. *Gerard emac. 333. Oeder Fl. Dan. 400.*

RADIX perennis, repens, alba, fibrosissima.

CAULIS erectus, simplex, pedalis, foliosus, inferne nudus, teres, alterne anceps.

FOLIA opposita, ovato-acuta, petiolata, hirsutis scabris, serrata, serraturis obtusiusculis, glandula albâ ad lentem conspicua terminatis.

STIPULÆ duæ, parvæ, acutæ; caulis utrinque ad basin petioli.

PEDUNCULI versus summitatem caulis prodeunt, oppositi, axillares, hirsuti, in maribus caulem superant in feminis intra folia reconduntur.

FLORES feminei pauci, masculi plures, sessiles, glomerati et verticillati quasi caulem femiamplectuntur.

FEMINA.

CALYX: PERIANTHIUM tripartitum, laciniis ovato-lanceolatis, suberectis, fig. 1, 2.

COROLLA nulla.

NECTARIA acumina duo subulata ad singulum latus germinis singula.

PISTILLUM: GERMEN subrotundum, compressum: STYLI seu potius STIGMATA dua, acuta, reflexa, fig. 4.

PERICARPIUM: CAPSULA subrotunda, didyma, bilocularis, fig. 5, 6.

SEMEN solitarium, subrotundum, purpureo-fuscum, fig. 7.

M A S.

CALYX: PERIANTHIUM ut in femina.

STAMINA: FILAMENTA novem plerumque, capillaria, recta, longitudine calycis: ANTHERÆ globosæ, didymæ, primo flavæ, mox cœrulecentes, fig. 3.

ROOT perennial, creeping, white, and very fibrous.

STALK upright, simple, a foot high, leafy, naked below, round, slightly winged alternately.

LEAVES opposite, oval, pointed, standing on foot-stalks slightly hairy and rough to the touch, serrated; the teeth bluntish, and terminated by a whitish gland, visible only by a magnifier.

STIPULÆ two, small, pointed, on each side the stalk at the base of the foot-stalk.

FOOT-STALKS of the flowers proceed from the bottoms of the leaves near the top of the stalk, are opposite and hairy; in the male plant they are longer than the stalk; in the female they are hid among the leaves.

FLOWERS in the female few; in the male numerous, sessile, growing somewhat whirl-like in little clusters, and half surrounding the stalk.

F E M A L E.

CALYX: a PERIANTHIUM divided into three segments, which are oval, pointed, and somewhat erect, fig. 1, 2.

COROLLA wanting.

NECTARY two small pointed filaments, one on each side the germen.

PISTILLUM: GERMEN roundish and somewhat flattened: STYLES, or rather STIGMATA, two, pointed and turning back, fig. 4.

SEED-VESSEL: a roundish double CAPSULE of two cavities, fig. 5, 6.

SEED: one in each cavity, roundish, of a brownish purple colour, fig. 7.

M A L E.

CALYX: a PERIANTHIUM the same as the female.

STAMINA: nine FILAMENTS, for the most part, capillary, strait, the length of the calyx: ANTHERÆ round, double, first yellow, afterwards becoming bluish.

IN the third edition of *RAVS Synopsis*, SIR HANS SLOANE communicates a very particular account of the pernicious effects of this plant. It was, as it appears from thence, gathered by the mistress of a family, in the fields, (*in agris* are the words,) fried with bacon, and eaten for supper by the wife, the husband, and three children; the children in about two hours awaked out of their sleep violently sick; on being removed to the fire they both vomited, and purged, and in about half an hour afterwards they again fell a sleep: two of them continued in this state of stupor for twenty-four hours, when they awaked, and after more copious evacuations recovered. The third child awaked not till the third day, and then just opening its eyes, was seized and carried off by convulsions. The man being of a robust constitution was not so violently affected; but after a longer sleep than usual, went about his business, feeling no other inconvenience than a burning heat in his chin, to assuage which he was obliged for the whole day to apply cold water. The woman, after being more than usually oppressed with sleep, found her self ill, and did not recover for several days.

From

From so circumstantial an account, it would appear that there was little doubt of the noxious quality of this plant to the human species; yet it is remarkable, that this should be the only instance of such effects mentioned by authors, when the plant has by many been recommended as a pot herb: such violent effects do not appear to have been known to the antients, by some of whom it is recommended as a laxative medicine.

It appears to be well worth ascertaining whether it really possesses those poisonous qualities; whether it be noxious early in the spring, or later in the summer; and whether it looses them in boiling.

LINNEÆUS, in his *Flora Suecica*, mentions it as being hurtful to Sheep. These useful animals are sometimes found to all appearance poisoned by eating some particular plant, which the farmer would do well to discover.

As many poisonous plants, under proper management, prove highly beneficial to mankind, so it is not improbable but this plant also might make ample amends.

It has been observed by many, that those plants which change blue in drying, will generally dye blue: this is remarkably the case with this plant, nearly as much so as with the *Polygonum Tinctorium*, sent to England from China by the late ingenious and indefatigable Mr. BLAKE, whose untimely death every sincere friend to this country must deplore: and was it to undergo a proper management, it is probable that it would produce an Indigo somewhat similar.

The *Dogs Mercury* grows plentifully in moist woods and under hedges, flowering from the end of March to the middle of May. It has a strong creeping perennial root like *Couch-grass*, whereby it may be readily distinguished from the *annual French Mercury*.

The antients have taken notice that this plant was of two sexes; but they mistook the female for the male. The cultivation of the Date-bearing Palm furnished the *Egyptians* with the first observations on the sexes of plants. The fruit of the female was of the utmost importance, as it supplied many of them with the principal part of their food. The inhabitants of countries where Palms grew naturally, might eat the fruit regardless of their manner of fructification; but when other countries, that were destitute of this ample provision of nature, attempted to transplant and cultivate Palms, they must necessarily have been obliged to attend to the two kinds, the male and the female, as the first bore no fruit, and the latter would prove barren if it was removed too far from the male.

It does not appear that the *Jews* were acquainted with the sexes of Palms, although they are often mentioned in the Bible as growing in *Judea*: but it was well known to THEOPHRASTUS, who describes the method of impregnating the female bloom with the farina of the male, in the same manner as modern travellers have seen it performed.* But although it is now two thousand years since this author wrote, yet no progress was made in demonstrating the sexual system of plants until this present century; before which time, all the writers on botany, instead of ascertaining what plants were of different sexes, mention male and female oaks, and other kinds of trees, that have both male and female bloom, on the same plants.

The utility of this kind of knowledge appears in the management of the Date-bearing Palm: for want of attending to it, the cultivators of hemp frequently meet with considerable disappointments: and it is probable that the planters of hops, by their custom of destroying the male plants, may also be sufferers.

We do not remember that any of the early poets have mentioned the different sexes or mutual love of trees. CLAUDIAN, who was well acquainted with *Egypt*, has very happily introduced it in his description of the beautiful retreat of *Venus* in the *Island of Cyprus*.

“ Vivunt in Venerem frondes, omnisque vicissim
 “ Fælix arbor amat, nutant ad mutua palmæ
 “ Fædera, populeo suspirat populus ictu
 “ Et platana platanis, alno assibilat alnus.”

“ Branches on branches twin'd compose the grove,
 “ And shoot, and spread, and blossom into love:
 “ The trembling palms their mutual vows repeat,
 “ And bending poplars bending poplars meet:
 “ The distant platanes seem to press more nigh,
 “ And to the sighing alders alders sigh.”

EUSDEN.

The reader will determine how far this translation deserves the censure that it lies under, and whether the following passage that accompanies it is worthy of its author: “ *As flowers, which are the lowest of vegetable, are the most gaudy, and do many times grow in great plenty at the bottom of ponds and ditches.*” Art of sinking in Poetry, published by POPE.

*Vid. HASSELQUIST.



Atriplex hastata

ATRIPLEX HASTATA. SPEAR-LEAVED ORACH.

ATRIPLEX *Linnaei. Gen. Pl. POLYGAMIA MONOECIA.*

HERMAPHROD. *Cal. 5-phyllus. Cor. o. Stam. 5. Stylus 2-partitus. Sem. 1, depresso.*

FEM. *Cal. 2-phyllus. Cor. o. Stam. o. Stylus 2-partitus. Sem. 1, compressum.*

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS.)

ATRIPLEX *hastata* caule herbaceo, calycis valvulis femineis magnis deltoidibus sinuatis. *Linnaei. Syst. Vegetab. p. 764. Sp. pl. 1494. Fl. Suecic. n. 921.*

ATRIPLEX foliis triangularibus, basi producta, valvulis triangularibus, subasperis. *Haller hist. n. 1617.*

ATRIPLEX sylvestris folio hastato seu deltoide. *Raii Syn. p. 151, Wild Orache with a spear-pointed leaf.*

Hudson Fl. Angl. ed. 1. p. 337.

Lightfoot Fl. Scot. p. 636.

RADIX annua, simplex, fibrosa, albida.

CAULIS plerumque erectus, pedalis aut tripedalis, tetragonus, angulis obtusis, lateribus subfulcatis, ad geniculos tumidiusculus, lævis, purpureus, ad basin usque, ramosus; RAMI oppositi, inferiores longissimi, caulem ipsum interdum æquant, ut plurimum procumbentes.

FOLIA ima triangularia, margine plus minusve dentata, farinâ subtus copiose adpersa, sæpe vero penitus glabra, opposita, petiolata, superiora ovato lanceolata, integerrima, alterna.

FLORES in summis caulibus et ramulis, in spicas angustas rubentes, digesti.

Flos hermaphroditus sterilis.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, marginibus membranaceis lacertis, fig. 1.

COROLLA nulla.

STAMINA: FILAMENTA quinque, calyce paulo longiora: ANTHERÆ subrotundæ, didymæ, rubræ, fig. 3.

PISTILLUM: GERMEN in centro flosculi minimum sterile.

Flos femineus.

CALYX: PERIANTHIUM diphyllum, foliolis ovato-acutis, erectis, granulis diaphanis obductis, fig. 2.

PISTILLUM: GERMEN ovatum, fig. 6: STYLI duo, etiam tres, filiformes, albi, fig. 4, 5.

PERICARPIUM nullum. *Calycis valvæ magnæ, cordatæ, asperæ, inter se includentes semen, fig. 7, 8.*

SEMEN unicum, orbiculatum, compressum, fig. 9.

ROOT annual, simple, fibrous, and of a whitish colour.

STALK generally upright, from one to three feet in height, four cornered, the angles obtuse, the sides somewhat grooved, a little swelled at the joints, smooth, of a purplish colour, and branched quite to the bottom: the BRANCHES opposite; the lowermost very long, sometimes almost equal with the stalk itself, and for the most part procumbent.

LEAVES on the lower part of the stalk triangular, with the edge more or less indented, sprinkled plentifully on the under side with meal, sometimes quite smooth, opposite, and standing on foot-stalks; the upper leaves oval, pointed, intire, and alternate.

FLOWERS disposed on the tops of the stalks and branches in narrow reddish spikes.

Hermaphrodite Flower sterile.

CALYX: a PERIANTHIUM of five leaves, which are oval and concave, the edges membranous and jagged, fig. 1.

COROLLA wanting.

STAMINA: five FILAMENTS a little longer than the Calyx: ANTHERÆ roundish, double, and of a red colour, fig. 3.

PISTILLUM: a very minute barren GERMEN in the center of the floscule.

Female Flower.

CALYX: a PERIANTHIUM of two leaves, which are oval, pointed, upright, and covered over with transparent grains or globules, fig. 2.

PISTILLUM: GERMEN oval, fig. 6. STYLES two, sometimes three, filiform and white, fig. 4, 5.

SEED-VESSEL none. Valves of the Calyx large, heart-shaped, rough, including the seed, fig. 7, 8.

SEED single, orbicular, and flattened, fig. 9.

BOTANISTS have happily divided the plants of this tribe into two Genera, each strikingly distinguishable by the particular form of its seed-vessels: without this division, great indeed would be the difficulty of investigating them.

The *Chenopodium* has hermaphrodite flowers only, which produce a seed contained within the calyx, composed of five leaves, which as the seed ripens, does not enlarge itself.

The *Atriplex* produces female blossoms, and male or hermaphrodite ones; the seed is contained within the calyx of the female blossom, which is composed of two leaves or valves, which increase as the seed becomes ripe; and in this state only, is it obviously distinguishable from the *Chenopodium*; for at the time of its flowering, so small are the female blossoms, as scarce to be distinguished without a magnifying glass.

The plant here figured, is one of the most common of this genus, and one of the most variable in nature. First it varies exceedingly according to its age, the person who had been accustomed to gather it in its young state, would scarce recognize it when far advanced: secondly, it varies according to its situation; on dunghills it grows very strong and luxuriant; by the road sides, it is a much weaker plant, and its branches long and procumbent; in wet places, it is apt to become much more upright, the leaves sometimes are very mealy on the under side, particularly when it grows on the sea shore; at other times they are altogether smooth: in general, the broad triangular leaf readily distinguishes this species: but on dunghills, a variety sometimes occurs with leaves not exactly corresponding to this figure, but approaching more to an oval, with an intire edge.

In its young state, this plant is frequently gathered under the name of *Fat-ben, Lambs-quarters, &c.* and eaten in lieu of Spinach and other greens.

Birds, particularly that mischievous one the sparrow, are very fond of the seeds of the Orach's. I have frequently had a plant of this Genus, stripped of its seeds by them in a very short time.

Cattle do not seem to be fond of it.

In the garden and cultivated ground, it is a very troublesome annual.

The farmer, as we have before hinted, would do well to weed his dung-heap of this and the other species, which are equally noxious.

OSMUNDA SPICANT. ROUGH SPLEENWORT.

OSMUNDA *Linnaei* Gen. Pl. CRYPTOGRAMIA FILICES.

Spica ramosa: Fructific. globosis.

Raii Syn. Gen. 4. HERBÆ CAPILLARES ET AFFINES.

OSMUNDA *Spicant* frondibus lanceolatis pinnatifidis: laciniis confluentibus integerrimis parallelis.

Linnaei Syst. Vegetab. p. 780. *Sp. Plant.* 1522. *Fl. Suecic.* n. 936.

STRUTHIOPTERIS, *Haller.* hist. n. 1687.

STRUTHIOPTERIS *Spicant.* *Scopoli* Flor. Carniol. n. 1258.

STRUTHIOPTERIS frondibus sterilibus pinnatifidis, pinnulis densis, oblongis falcatis; fructificantibus majoribus, laxius pinnatis, angustioribus. *Weis.* Cryptog. p. 287.

SPICANT Tragi et Germanorum.

LONCHITIS aspera minor. *Bauhin* Pin. 359. *Parkinson* 1042.

LONCHITIS aspera. *Gerard* emac. 1140. *Raii* Syn. p. 118, Rough Spleenwort.

Oeder Fl. Dan. ic. 99.

Hudson Fl. Angl. 382. ed. 2. p. 450.

Lightfoot Fl. Scot. p. 634.

FRONDES steriles plures ex una radice fibrosa, in orbem dispositæ, semierectæ, aut reclinatæ, spithamæ, immo pedis longitudinem æquantes, *Polypodio vulgari* fimiles, simplices nempe et pinnatifidæ, pinnis densis, alternis, lanceolatis, oblongis, 2 lineas circiter latis, integerrimis, fursum curvis, mediis maximis, (uncialibus, fessiquincialibus,) supernis et infernis brevioribus, nervosis, margine cartilagineo, subcrenato, retrorsum flexo.

STIPES five nervus medius inferne fuscis squamulis obfitus.

E medio centro harum frondium surgunt frondes fructificantes aliæ, etiam pinnatæ, at duplo illis longiores, graciliores, atro purpureæ, pinnis laxis alternis, lineam latis, mediis quoque longioribus, superioribus et inferioribus sensim decrefcentibus, capsulis refertis.

CAPSULÆ dense coagmentatæ, duas lineas distinctas, marginibus parallelas efformant, et ab initio coloris sunt lutescentis, sensim per maturitatem fusci.

Fig. 1, Folium seu pinna cum capsulis auct.

Fig. 2, Capsula disrupta, cum annulo.

LEAVES: several barren leaves proceed from one fibrous root, orbicularly disposed, either half upright or reclining, from three inches to a foot in length, somewhat like the common *Polypody*, viz. simple and pinnatifid; the pinnæ set closely together, alternate, lanceolate, oblong, about two lines broad, perfectly entire, bent upwards; the middle ones largest, (even an inch or an inch and a half in length;) the upper and lower ones shorter, ribbed, the edge cartilaginous, very slightly notched, and bent backward.

STALK or midrib, beset on its lower part with small brown scales.

From the center of these leaves arise other leaves bearing the fructifications, which also are pinnated, but twice as long, and more slender, of a dark purple colour; the pinnæ loosely set, and alternate, a line in breadth, longest also in the middle, the upper and lower ones gradually decreasing, filled with capsules.

CAPSULES closely crowded together, forming two distinct lines parallel with the edges of the leaf, at the beginning of a yellowish colour, becoming brown as they ripen.

Fig. 1, one of the small leaves or pinnæ, with the capsules magnified.

Fig. 2, a capsule burst open, with its ring.

BOTANISTS appear much divided as to the genus of this plant; some considering it as an *Osmunda*, among whom is LINNÆUS; while others of great eminence contend for its being a *Struthiopteris*; of the latter opinion are HALLER, SCOPOLI, and WEIS.

The division of the *Ferns* into distant Genera, is perhaps as difficult a task as any in Botany. From the mechanism of the fructifications little is to be expected, as a great similarity seems to pervade the whole. The various modes in which the capsules are placed on the plant, in some of them are strikingly different, and appear to form very distinct and satisfactory characters; but when as a tribe, they come to be more minutely investigated, the characters of one are frequently lost in those of another, and a precise generic character is in vain sought for.

In the present doubtful case we have adopted the name of LINNÆUS.

The description of this plant given by WEIS, in his *Plant. Cryptog.* is so very accurate, that despairing of a better, we have in the present case adopted it; not however meaning to establish it as a precedent: from originality we shall never swerve in our figures, nor in our descriptions, but as seldom as possible; taking care that whenever we do, it shall not be to the prejudice, but rather advantage of the work.

The *Osmunda Spicant* grows plentifully in the environs of Caen Wood, near Hampstead-Heath, the seat of Lord Mansfield; and produces its fructifications in July, August, and September.



Osmunda Spicant



Nº 102 .



Polytrichum subrotundum

Janson. Sculp.

POLYTRICHUM SUBROTUNDUM. DWARF POLYTRICHUM.

POLYTRICHUM *Linnaei*. CRYPTOGRAMIA MUSCI.

Calyptra duplex, interior membranacea, laevis, exterior floccida.

Raii Syn. Gen. 3. MUSCI.

POLYTRICHUM *subrotundum* caule simplici anthera subrotunda. *Hudson Fl. Angl. p. 400.*

MNIUM *Polytrichoides calyptra villosa. Lin. Syst. Vegetab. p. 796. Sp. Pl. p. 1576. Fl. Suecic. p. 385.*

MNIUM *calyptra villosa, acaulon, foliis ferratis, capsulis cylindricis erectis. Haller. hist. n. 1837.*

POLYTRICHUM *Aloefolium. Scopoli Fl. Carniol. p. 309. n. 1290.*

POLYTRICHUM *nanum, capsulis subrotundis galericis, aloes folio non ferrato. The dwarf round-headed Aloe-leaved Polytrichum, Dillen. Musc. 428. t. 55. f. 6.*

POLYTRICHUM *nanum capsula cylindrica erecta; furculis simplicibus, brevissimis, foliis ferrulatis. Weis Plant. Cryptogam. p. 173.*

MUSCUS *capillaceus minor, calyptra tomentosa. Vaill. paris. 131. t. 26. f. 15.*

ADIANTUM *aureum medium, in ericetis proveniens. Vaill. paris. 429. t. 55. f. 7.*

MUSCUS *coronatus rigidus minor et humilior capitulis villosis brevioribus. Moris. hist. 3. p. 630. t. 7. f. 7.*

POLYTRICHUM *minus capsulis subrotundis, calyptra quasi lacera coronatis. C. G. 221. Raii Syn. p. 91.*

RADIX tomentosa.

CAULIS brevissimus, vix ullus.

FOLIA brevia, rigida, intus concava, extus convexa, acuta, margine minutissime ferrata, basi lato membranaceo caulem amplectente, ficcata incurvata teretiuscula, fig. 1.

PEDUNCULI simplices, unciales, rubicundi, subdiaphani, flexuosi, fig. 3, demum tortuosi, fig. 21.

CAPSULAE subrotundae, fig. 4.

- Fig. — 2, Folia per lentem visa.
5, Calyptra exterior magn. nat.
6, Eadem magn. auct.
7, Eadem inversa ut Calyptra interior appareat.
9, 9, Calyptra interior in situ naturali.
10, 10, Eadem aucta.
11, Calyptra interior separata ab exteriori et seorsum exhibita.
12, Eadem in situ naturali cum exteriori connexa.
13, Capsula magn. nat. nuda.
14, Eadem auct.
15, Eadem ad maturitatem magis accedens.
16, Operculum.
17, 17, Ciliae.
18, 18, 18, Membrana mucronata in summo capsulae cui adnectuntur ciliae.
19, 19, Ciliae in sectione longitudinali Capsulae exhibitae.
20, Receptaculum feminis.

ROOT woolly.

STALK very short, scarce any.

LEAVES short, rigid, hollow within, round without, sharply pointed, the edge very finely ferrated, embracing the stalk by a broad membranous base; when dried bending inwards, and of a roundish form, fig. 1.

FOOT-STALKS simple, an inch high, reddish, somewhat transparent, crooked, fig. 3, finally twisted, fig. 21.

CAPSULES roundish, fig. 4.

- Fig. — 2, The leaves viewed through a magnifier.
5, The exterior Calyptra of its natural size.
6, The same magnified.
7, The same inverted, that the inner Calyptra may appear.
9, 9, The inner Calyptra in its nat. situation.
10, 10, The same enlarged.
11, The inner Calyptra separated from the outer one, and shewn by itself.
12, The same in its natural situation, connected with the outer one.
13, The Capsule of its nat. size uncovered.
14, The same enlarged.
15, The same approaching more to maturity.
16, The Cover.
17, 17, The Ciliae.
18, 18, 18, A pointed Membrane at the summit of the Capsule, to which the Ciliae are connected.
19, 19, The Ciliae shewn in a longitudinal section of the Capsule.
20, The Receptacle to which the seeds are connected.

ABOUT two years ago, (1776) on examining the structure of the *Polytrichum commune*, in a very young state, I found one of the heads, (*Antberæ* *Lin.*) after I had divested it of its woolly Calyptra, covered with a membranous shining substance, and which I had no sooner seen, than I judged it to be a Calyptra, being so very similar to the Calyptra's of some Mosses I had just before been examining; and on a more minute investigation, I found it to be a real Calyptra, not accidental to the plant then under examination, but occurring in all those which I, at that time, had an opportunity of dissecting; and afterwards found to be in the dwarf variety of the same species, growing on heaths, and in the present plant.

Those who shall take the pains of investigating the structure of these Mosses, will think it strange that a part so very obvious to the naked eye, should not have been noticed before; but this is easily accounted for.

No one, when he sits down to examine these Mosses, conceives a priori, that they have any more than one Calyptra; finding that which is peculiar to this Genus, he rests satisfied, pulls it off, and proceeds to the examination of the remaining parts, not imagining that a membranous Calyptra is closely connected by its apex to the woolly one, pulled off with, and covered by it, and scarce discovered but by totally inverting it: but that this is actually the case, any one may satisfy themselves in the course of this and the succeeding months, *February* and *March*.

This inner Calyptra differs very little from the Calyptra of other Mosses; at first it wholly surrounds the unripe Capsules, as they increase in size it splits at bottom, and finally becomes very short.

I was the more pleased with this discovery, as I conceived hopes it would place the genus *Polytrichum* in a more pleasing and satisfactory point of view; and I have accordingly ventured to alter its generic character as above: by this alteration it is brought from the *Mniums*, among which it is placed by *LINNÆUS* and *HALLER*, and arranged with the *Polytrichums* of *DILLENUS*, *HUDSON*, *SCOPOLI*, and *WEIS*, to which its habit alone certainly entitles it, was it not found to accord with the *Polytrichum* in the essential character now discovered.

Why nature should have been thus careful in covering this genus of plants with a warm additional coat, while many of the other Mosses, at the same time of the year, are thinly clad with a single membranous veil, does not appear. In the structure of the two Calyptra's, there is a most essential difference; the outer one being a woolly substance closely matted together, without any connecting membranous substance; the inner one consisting wholly of membrane.

The plant here figured, is the *Polytrichum capsulis subrotundis* of *DILLENUS*, and of which that, with the *capitulis oblongis*, seems to be only a variety growing in warmer and less exposed situations.

It is by no means an uncommon Moss on our heaths, and exposed hilly and sandy places about town. It throws out its stalks in *November* and *December*, and ripens its Capsules in *January* and *February*.



Hypnum sericeum

HYPNUM SERICEUM. SILKY HYPNUM.

HYPNUM *Linnaei* Gen. Pl. CRYPTOGRAMIA MUSCI.
Anthera operculata. Calyptra levis. Filamentum laterale ortum e perichætio.
Raii Syn. Gen. 3. MUSCI.
HYPNUM *sericeum* furculo repente, ramis confertis erectis, foliis subulatis, antheris erectis. *Lin. Syst. Vegetab. p. 801. Sp. Pl. p. 1595. Fl. Suecic. n. 1036.*
HYPNUM *sericeum. Scopoli. Fl. Carniol. p. 340.*
HYPNUM ramis teretibus; foliis pilo præpilatis; capfulis cylindricis, erectis, aristatis. *Haller. hist. n. 1750.*
HYPNUM vulgare sericeum recurvum, capfulis erectis cuspidatis. *Dillen. Musc. 323. t. 42. f. 59.*
MUSCUS terrestris luteo-viridans sericeus repens. *Moris. hist. 3. p. 626. f. 15. t. 5. fig. 25.*
MUSCUS arboreus splendens sericeus. *Vaill. Paris. 132. t. 27. fig. 3.*
HYPNUM repens trichoides terrestre luteo virens vulgare majus, capitulis erectis. *Raii Syn. p. 84.*
Hudson. Fl. Angl. ed. 1. p. 428.
Lightfoot. Fl. Scot. v. 2. p. 762.

CAULES five viticuli longi, repentes, fibrillis copiosis, tomentosis adhærentes, valde ramosi, in densos cæspites congesti, ramis creberrimis, furcatis, brevibus, subteretibus, in ficitate incurvis, fig. 1, tactu rigidis, in humiditate rectis mollibus.	STALKS, or shoots, long, creeping, adhering by numerous small, woolly fibres, very much branched, and forming close tufts; branches numerous, upright, short, and roundish; when dry, bending down at top, and somewhat stiff, fig. 1; when moist, upright and soft.
FOLIA ovato-lanceolata, fig. 2, in pilum longum terminata, densissime imbricata; in ficitate appressa, capillaria; humida latiora, patula, ex obscuro viridia, cum sericeo splendore ad luteum vergente.	LEAVES oval and pointed, fig. 2, terminating in a long hair, lying closely one over the other, when dry pressed together, and very fine; when moist broader, and more spreading, of a dullish green, inclining to yellow, with a shining silky appearance.
PEDUNCULI femunciales, unciales, purpureæ, perichætio squamoso cinctæ, fig. 3, confertæ, circa medium furculi ortæ.	FOOT-STALKS an inch and a half or an inch long, purple, at bottom covered with a scaly perichætium, fig. 3, arising from about the middle of the shoots.
CAPSULÆ oblongæ, teretes, erectæ, inferne paululum incrassatæ, ex livido fusæ, fig. 6, 7, per medium discissa, fig. 10.	CAPSULES oblong, round, upright, somewhat enlarged at bottom, of a livid brown colour, fig. 6, 7; cut down the middle at fig. 10.
CALYPTRA pallida.	CALYPTRA pale brown.
OPERCULUM breve, rostratum, miniatum, fig. 8.	OPERCULUM short, ending in a beak of a bright red colour, fig. 8.
CILIÆ albidæ, erectæ, una tantum series, fig. 9.	CILIÆ or hairs whitish, upright, and one row only, fig. 9.

THE *Hypnum sericeum* is one of our most common, as well as one of our earliest *Mosses*, producing its Capsules from September to February.

It generally puts forth its fructifications in the greatest plenty, on the tops of old walls. It creeps also on the ground, as well as on the trunks of trees.

None of our *Mosses* afford a more beautiful carpet: it frequently exhibits all the richness and softness of silk, particularly when dry. But those patches of it, which put on this yellow and shining appearance, by which it is so readily distinguished, do not always produce fructifications in the greatest abundance.

It may be distinguished from the *Hypnum rutabulum*, which often occurs with it, by having longer and more upright Capsules.

DILLENIIUS has described this *Moss* with his usual accuracy, which is modernized, and somewhat improved by WEIS, from whom our description is almost literally taken.



Bryum viridulum



Bryum truncatulum

BRYUM TRUNCATULUM. BROWN BRYUM.

BRYUM Linnæi Gen. Pl. CRYPTOGAMIA MUSCI.

Raii Syn. Gen. 3. MUSCI.

BRYUM truncatum antheris erectis subrotundis, operculo mucronato. Lin. Syst. Vegetab. p. 798. Sp. Pl. 1584. Fl. Suecic. 391. Dillen. Musc. 347. t. 45. fig. 7. Raii Syn. 94. Hudson Fl. Angl. 408. ed. 2. p. 477. Lightfoot. Fl. Scot. p. 730.

CAULES simplices, brevissimi, lineas tres raro superantes, cæspitiosi, fig. 1, 6.

FOLIA ovato-lanceolata, mucronata, fig. 13, splendens, carinata, superiora majora, in stellulam expansa.

PEDUNCULI simplices, subinde bini, trium quatuorve linearum, purpurascens.

CALYPTRA pallida, obliqua, acuminata, fig. 7, 8, 9, 10.

OPERCULUM primo rostratum, obliquum, delapsa calyptra contrahitur erectumque evadit, fig. 11, 12.

CAPSULA primo ovata, fig. 8, 9, flavescens, demum rufa, truncata, annulo ciliisque destituta, fig. 11, 12.

Plantula microscop. auct. fig. 14.

STALKS simple, very short, seldom exceeding three lines, growing in tufts, fig. 1, 6.

LEAVES oval, lanceolate, terminating in a point, fig. 13, shining, with a projecting midrib; those on the top of the stalk largest, with a star-like expansion.

PEDUNCLES simple, sometimes growing two together, three or four lines in length, of a purplish colour.

CALYPTRA pale, oblique, and terminating in a long point, fig. 7, 8, 9, 10.

OPERCULUM, at first having a beak, placed obliquely on the capsule, on the falling off of the calyptra becoming shorter and upright, fig. 11, 12.

CAPSULE, at first oval, fig. 8, 9, of a yellowish colour, finally of a reddish brown, as it were cut off at top, and destitute of both ring and cilia, fig. 11, 12.

The whole plant magnified, fig. 14.

THE *Bryum truncatum* is one of the least of our Mosses, and distinguishable at first sight by the great number of its little brown heads, which, when the operculum falls off, have their margin entire, so that they appear as if cut across, whence its name of *truncatum*.

It is very common almost every where on banks, producing its fructifications from September to February.

It varies much in size.

HASSELQUIST, in his journey to *Palestine*, finding the *Walls of Jerusalem* covered with this little plant, calls it *Hyssopus Solomonis*, from a supposition that it was the plant which *Solomon* meant, when he spake of trees from the Cedar in Lebanon to the Hyssop which springeth out of the wall.

BRYUM VIRIDULUM. GREEN BRYUM.

BRYUM viridulum antheris erectis ovatis, foliis lanceolatis acuminatis imbricato-patulis. Linnæi Syst. Vegetab. p. 798. Sp. Pl. 1584. Fl. Suecic. 1002. Dillen. Musc. 380. t. 48. fig. 43. Raii Syn. 97. Hudson Fl. Angl. 408. ed. 2. 487. Lightfoot. Fl. Scot. 731.

EXPL. FIG.	EXPLAN. of FIG.
Fig. 1, 2, 3, 4, Plantæ nat. magnitud.	Fig. 1, 2, 3, 4, Plants of their natural size.
Fig. — 5, 7, Plantæ auct.	Fig. — 5, 7, Plants magnified.
Fig. — 6, Folium auct.	Fig. — 6, a Leaf magnified.
Fig. 9, 10, 11, Capsulæ cum Calyptrâ.	Fig. 9, 10, 11, Capsules with the Calyptra.
Fig. — 8, Calyptra seorsim exhibita.	Fig. — 8, The Calyptra exhibited separately.

THIS species differs from the above in many particulars. It grows in close soft tufts, which are in general larger, and of a more yellow hue; the stalks are frequently branched; the leaves are much finer, being nearly capillary; the mouth of the capsule, when the operculum falls off, is narrower than the middle, hence it bears a greater resemblance to an egg, with the extremity cut off; while the *truncatum* approaches more to the form of an urn. In the *viridulum*, the mouth is also very finely ciliated.

The *viridulum* grows in great abundance on the banks surrounding *Charlton Wood*; and produces its fructifications with the *truncatum*.



Lansom Sculp

Agaricus ovatus

AGARICUS OVATUS. PUCKER'D MUSHROOM.

AGARICUS *Linnaei* Gen. Pl. CRYPTOGAMIA FUNGI.

Raii Syn. Gen. I. FUNGI.

AGARICUS *ovatus* pileo ovato subplicato, stipite nudo ad basin attenuato scabriusculo; lamellis creberrimis subcoalescentibus.

AMANITA pileo ovato striato, cinereo, annulato, fugaci. *Haller hist. belv. n. 2479.*

AGARICUS *ovatus*. *Scopoli Fl. Carniol. n. 1579.* Diagn. *Albus, cespitosus; vertice rufescente; stipite cylindrico et annulo fugaci cincto.*

AGARICUS; volva exceptus, pileo campanulato, striato, vertice lævi, petiolo annulato, cylindraceo, fistuloso, in basin rostratum desinente. *Gleditch, Method. Fungor. p. 89.*

FUNGUS, qui volvam vix egressus in atramentum resolvitur, pileolo campanulato, plumbeo, vertice lævi, reliqua parte striato, pediculo cylindrico, albo, fistuloso, radice rostrata. *Michel. N. Pl. G. 189. t. 80. f. 5.*

FUNGUS multiplex ovatus cinereus. *Vaill. p. 73. t. 12. fig. 10, 11.*

FUNGUS superficiei murini coloris, lamellis albicantibus. *Raii Syn. p. 5. 21.*

AGARICUS *plicatus*, stipitatus, pileo ovato striato plicato cinereo, vertice lævi, stipite annulato fistuloso, basi subulato. Pucker'd Agaric, *Lightfoot Flora Scotica. p. 1023. Schæffer. icon. tab. 17, 67, 68.*

STIPES: Stipites plures e terrâ aut ligno semiputrido aggregatim assurgentes, inferne extra pileum *scabriusculi*; ad basin attenuati, fusci, superne intra pileum albissimi, subfulcati, ad apicem sensim attenuati, in adultis stipes semipedalis, subcylindricus, lævis, crassitie minimi digiti aut major evadit, modice firmus et carnosus, fistulosus, nudus; transversim sectus circulos in carne exhibens.

VOLVA nulla.

PILEUS *primum* ovatus aut obtuse conicus, circa orem contractus, et subplicatus, solidus, ponderosus, pallide fuscus; in *adultis* subcampanulatus, latitudine ad tres uncias accedens, murinus, maculis umbrinis aut ferrugineis præcipue ad verticem notatus, vertex saturatius colorata, lævis, subinde vero subquamosa; latera plus minusve sulcata, denum fere planus, margine revoluta.

LAMELLÆ *creberrimæ, compactæ, latæ, filamentis transversis nudo oculo inconspicuis connexæ*, unde, ita coalescunt (presertim in junioribus) ut lamellam integram vix separare queas, primum albæ, mox pars inferior dimidia nigrescit, et tandem totæ lamellæ in liquamen atramentosum resolvuntur; superficies interna pilei in junioribus farinâ subtilissimâ canâ adspersa.

STALKS, generally springing from the earth, or decayed wood, in clusters; the lower part, without the cap, roughish, of a brown colour, and tapering to the base; the upper part, within the cap, very white, slightly grooved, and tapering gradually to the top; when full grown, it becomes six inches high, nearly cylindrical, smooth, and the thickness of the little finger, or larger, moderately firm and fleshy, hollow and naked, and cut through the middle shews circles in the fleshy part.

RING wanting.

CAP *first* oval or obtusely conical, the mouth contracted, and puckered around the stalk, solid, heavy, and of a light brown colour; *in the full grown ones*, somewhat bell-shaped, about three inches in breadth, of a mouse colour, marked with umber coloured or ferruginous spots, particularly at the top; the top of a deeper colour, smooth, but sometimes slightly chopped; the sides more or less deeply grooved, becoming *finally* almost flat, the edge curling up.

GILLS *very numerous*, compact, and broad, *connected together by transverse filaments, inconspicuous to the naked eye*, whence they so coalesce, that it is difficult to separate a single gill entirely; at first white, quickly the lower half becomes of a blackish colour, and lastly the whole of the gills dissolves into a black inky liquid: the internal surface of the cap, in the young ones, is sprinkled over with a very fine grey powder.

IT appears to be a matter of much doubt, whether this *Fungus*, common as it appears to be in most parts of Europe, be described by LINNÆUS. Certainly there are none of his *Agarici*, which accord exactly with ours: neither do HALLER, or SCOPOLI, quote LINNÆUS in their descriptions of it. SCHÆFFER, who appears to be too fond of multiplying plates, has given it in no less than three. It is true, by this means, the plant is represented in its various states; but, perhaps, these might have been satisfactorily exhibited in a single one.—If plants are thus to be delineated in all their varieties, natural history must sink under its own weight.

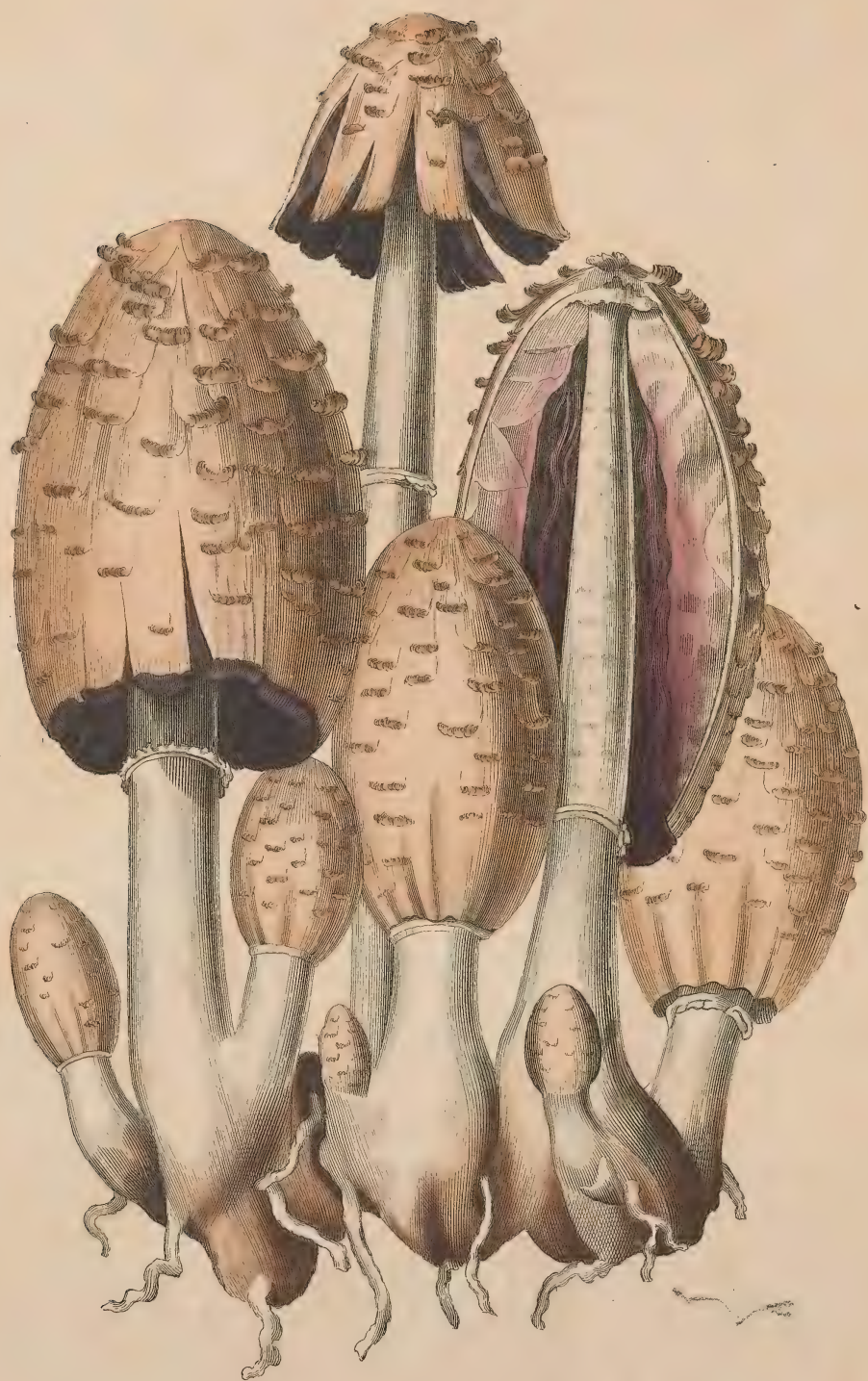
I suspect this species to be the *Fungus superficiei murini coloris lamellis albicantibus* of RAY, *p. 5. n. 21.* but cannot fix it with certainty. SCOPOLI has given it the name of *ovatus*, which I have retained, with Mr. LIGHTFOOT's English name, who has very accurately described it. I agree with him entirely in considering it as a species distinct from the *finetarius*, and with which, in my opinion, it has but little real affinity. The description and figure here given, when contrasted, will make it unnecessary to particularize the peculiarities which distinguish each. But there is a singularity of structure, occurring in the *ovatus*, which seems worthy of remark. The Gills are connected together by numerous transverse bars or filaments, discoverable only when greatly magnified: the use of these appears to be to keep the Gills at an equal distance from each other, and thereby prevent the fructifications which are situated on the flat surface of the lamellæ, from being pressed on, and destroyed, by their very great closeness. I have not hitherto observed this peculiarity of structure in any other *Fungus*: in the *finetarius* it certainly does not exist. These connecting filaments in the *ovatus*, make it exceeding difficult to separate one of the lamellæ entire.

These Fungi are very common with us in the borders of wet meadows, near the roots of willow trees, in gardens also, near houses, and by the sides of roads. They are found in the greatest plenty, from the beginning of September to the end of October. I have also found the same species in July. From the time of their springing up, to the time of their beginning to decay, is about five days. Their manner of decaying is similar to that of the *finetarius*, and several others; the gills dissolving into a very black liquor, like ink, which dropping, carries with it the seed of the Mushroom, which is observable in the liquor if greatly magnified.

It varies in size, and also in colour, chiefly from a lighter to a paler brown.

The Gills are often found full of little maggots.

There is no reason to suspect its being poisonous, nor yet can it be recommended as eatable.



Agaricus fimetarius

AGARICUS FIMETARIUS EGG MUSHROOM.

AGARICUS *Linnaei* Gen. Pl. CRYPTOGAMIA FUNGI.

FUNGUS horizontalis subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *fimetarius* stipitatus, pileo campanulato lacero, lamellis nigris lateraliter flexuosis, stipite fistuloso.

Lin. Syst. Vegetab. p. 820. Spec. Pl. p. 1643. Fl. Suecic. n. 1215.

AMANITA albus, campanulatus, squamosus, nigrescens. *Haller. hist. helv. p. 157. n. * 2357.*

AGARICUS *fimetarius*. *Scopoli Fl. Carniol. n. 1484.*

AGARICUS pileo campanulato, contracto, striato et villoso, lamellis tenuissimis; petiolo cylindraceo, annulo fugaci, distincto, vel nullo. *GLEDITCH. Fung. p. 122.*

FUNGUS albus ovum referens. *Buxbaum. Cent. 4. t. 27. fig. 1. Raii Syn. p. 5. n. 22. Hudson. Fl. Angl. p. 493. Lightfoot. Fl. Scot. p. 1021. Schaeffer tab. 7. 8. 46. 47. 100.*

Gregatim plerumque nascuntur hi Fungi, subinde vero solitarii inveniuntur.

STIPES primum pileo penitus obtegitur, mox semipedalis, evadit, cylindricus, fistulosus, albissimus, medullâ filiformi, intra tubum liberâ.

VOLVA nulla, sed margo instar volvæ ex margine pilei lacero stipitem cingente infra laminas.

PILEUS albus, in junioribus oblongus digitalis, mox subcampanulatus, demum fere planus; CARO tenuis, CUTIS in squamas fuscas laciniatas sursum revolutas separans, quæ cœlo intempestivo pluviis sæpe abluuntur, pileo decorticato albo relicto.

LAMELLÆ numerosæ, lineas tres latæ, primum albissimæ, farinâ quasi adspersæ, in adultis laxæ, flexuosæ cum ruboris tincturâ, demum nigricantes, in liquorem atramentosum diffuentes.

These Mushrooms most commonly rise out of the ground in clusters, sometimes they grow singly.

STALK at first is wholly covered by the Pileus or Cap, but soon grows to the height of six inches, is cylindrical, hollow and very white, the pith within the tube is shaped like a thread and loose.

RING proper, none, but a slight edging like a ring from the torn edge of the cap surrounds the stalk below the gills.

CAP white, in the young ones oblong, the length of the finger, presently becoming somewhat bell-shaped, finally almost flat; the FLESH thin; the SKIN separating into brown flakes which curl upwards, and which in showery weather are often washed off by the rains, leaving the Cap naked and white.

GILLS numerous, three lines broad, at first exceeding white and covered as it were with powder, when full grown they are loosely connected and waved, with a tinge of red, finally they become black and dissolve into an inky liquor.

The FUNGI, generally known in English by the names of *Mushrooms* and *Toad-stools*, are a tribe of plants, which, while they have afforded abundant matter of curious inquiry to the philosophic naturalist, have hitherto eluded the most unwearied attempts of the Botanist to reduce them to their several species and varieties.

Although, in point of Utility to mankind, they may not compare with many other families of plants, yet are they by no means without their importance in the general œconomy of nature. Whatever is not immediately applicable to our own wants, we are apt to think too lightly of; forgetting, that the infinitely more numerous Inhabitants of this terraqueous Globe, are equally the objects of the care of an all bountiful Creator.

A great variety of Insects feed on the different species of Fungi, particularly the *larvæ* or *maggots*, of many of the Fly kind, *Muscæ* *Lin.*

In some Countries, Mushrooms are made much more an object of food than with us; this prompts the inhabitants often to eat such as are in their natures poisonous, whence direful effects have too often proceeded. With us they are used more as an article of luxury, and the markets being chiefly supplied by the cultivators of them, who propagate one particular species, these fatal accidents scarce ever happen here.

To prevent, however, any accidents of this kind, perhaps the best advice would be to caution persons in general, to meddle with no other sort than the common field Mushroom, which is generally cultivated; and rather to procure such of those who cultivate them, than of those who may occasionally offer them to sale: and to render a knowledge of this species more obvious, we propose, in a future number, to give a figure of it in all its states, and shall endeavour to distinguish it from the others in the plainest manner.

From the observations already made on this Genus, we are led to think, that the several species of them are more distinct, and less liable to those amazing alterations, which Botanists inform us of, and which indeed, are sufficient to intimidate the Student, and deter him, from entering on a field, where he is to expect nothing but confusion, and be lost in the perplexing mazes of endless varieties. There is one pleasing circumstance attends the *Fungi*: they make their principal appearance in Autumn, at a time of the year, when the Botanist is most at leisure to observe them, and when scarce any other plants engage his attention. Next succeed the wintry Mosses: and thus the Botanists perpetual summer is rendered compleat.

The species here figured is not eaten with us; yet there appears no reason to suspect its being in any degree poisonous.

It occurs very frequently, towards the end of September, by the sides of Roads, growing out of the ground, probably where there has been some dung intermixed.

It is distinguished from the other *Fungi* by its oblong oval shape; and in a more particular manner, by the raggedness of its outer coat, which curls up in flakes; but it is apt to be washed off in heavy rains. The gills are large, numerous, and waved, at first of a reddish purple colour, and often white, finally dissolving into a black liquid, like many others of the same kind.

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